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Gullion, Gordon
1949 - 1950
Fulica americana

* Journal and Species Account, pt. 1
Journal and Species Account, pt. 2
Maps of Study Areas
Bands, Banding, and Miscellaneous tabular data.
Records of Birds released from Gray Lodge and Lake Merritt.
Leg coloration
Photographs
developement of Shield
general

* not included in this volume

Journal and Species Account

Fulica americana

[part 2]

G. W. GULLION
1950

Fulica Americana

May 5 Lake Temescal, 45 ft, Alameda Co., Calif.
M/6. The E♀ at that time was at P15, watching, but taking no part in the affair. Their mission accomplished the W♀ pair returned to their area. The ♀ went into E14 the W♂ stayed at J12, threatening W/Be who is working back S. Since 7:05 E♀ has been at P16.4, preening etc while standing on some floating object. W/Bl will be losing her tags soon, they are hanging precariously on one side of her neck. 7:13 W♂ has gone to cove at E13. A marked bird, that may be B/O is at I10 feeding on Potamogeton that apparently has reached the lake surface. SW♀ at F9 calling. 7:18 p.m. E♀ seems set for the night. W/Bl carefully moved into I8.25. A SW bird ♀? started over towards her but never actually pressed the matter. However at 7:25 p.m. a SE bird came and chased W/Bl out and she moved out to I11. In the mouth SE ♀?) and SW(♀?) went into paired display in the willows at I7. Now 3 birds are at I9-10 looking for sleeping quarters. (Lines no longer visible daily) W/Bl is cautiously moving towards to earlier spot. Ruddies and Mallards show little signs of going to bed. NO at E11, fishermen at E16 & H9 seem to have things tied up for normal

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May 5 Lake Temescal, 420 ft, Alameda Co., Calif. - sleeping 7:34 p.m. W/Bl and UNM were almost ready to move in at I8 when a SE bird cut them off start. They are not letting the resident bird chase them far. W/Bl constantly showed white under tail coverts as she moved in. 7:37 - all the Coots except the 3 at I8 seem settled for the night, but chase is still going on there as the 2 non-territorial birds insist on sleeping there. Time to check Q22 and go home: 7:43 p.m. tagged ♂ on nest Q22.

May 6 same locality - 3:15 a.m. a bird on nest P6.5 sex unknown, 3:20 a.m. the E♀ apparently is on Q22. The incubating bird had the back of its head to me and no tags could be seen. The moon is quite bright. It just may be that they change over when the moon becomes bright enough, or high enough. Couldn't find the tagged bird in the usual haunts. This bird got off the nest when I went down to the shore-line. 4:00 a.m. I was mistaken. the tagged ♂ is on the nest now, and I believe there has been no change since I've been here. About 3:55 a.m. the ♀ punk-unked 3 times at P16 and the ♂ answered with 2 "punk-uks". A third bird replied

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May 6 Lake Temescal, 42 ft., Alameda Co., Calif. - From the S end. 4:14 - a Ruddy Duck got into the next clump at Q 22 and it sounded as though the ♂ got off after it. A moment later the ♀ gave several low grunts at Q 18 or so. 4:20 the ♂ is still on the nest but I must leave. - 4:15 p.m. checked nest, I 6.1 - 10 eggs all remarked with scotch tape over marking on big end of all, on mid-side of one and towards small end on side of another. Both birds in close defending. One bird stood on the platform at H 7.25 and slapped its foot, did the same on some floating cat-tails just E of the nest. The ♀ came to within about 4 or 5 feet of me. Still 6 eggs in nest P 6.5. Not tagged. One of the 6 proves to be new, marked F. Apparently the old eggs break or are broken in the nest for the nest is generally littered with yolk etc but no sign of shell. The eggs are partly covered with yolk also. The structure at K 7.4 is somewhat better developed than it was yesterday (had a definite platform, of dead & green cat-tails (50-50). Yesterday it was merely an accumulation of floating debris of cat-tails. Saw ♂ in the Picnic Area coming in. Apparently the ♀ is off the nest and at O 13.- 4:39 p.m. 4:43 p.m. - Tagged ♂ is on the nest at O 22. ♀ ♂ Mallards

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May 6 Lake Temescal, 420 ft., Alameda Co., Calif. - feeding unmolested at P23. E♀ not located. She's at Q23, "poorking" about(?) the ♀ Mallard and her brood at R23 - 4:45 pm. 4:50 p.m. the ♂ came off J6 nest and the ♀ went on, no calls or notes. ♀ readjusted cat tails and preened as she went on. Opened that nest up so I can see into it from N7. 5:22 p.m. the SE♀ is still on the nest J6.5. 5:28 p.m. the ♀ is on nest Q22 while the tagged ♂ feeds just E of the nest clump. 5:30 p.m. both E birds off the nest, in the E inlet, by 5:31 the ♂ has gone into the nest clump and not come out. (I'm observing from F20 starting 5:30 pm PST - 6:30 daylight time). 5:38, E♀ coming S at Q26, in fact she cut out to N23, then as a fisherman came to Q20, she came in to P21 - also the ♀ Mallard and 10 yng moved to Q23 from Q20 at the same time. E♀ now at Q24 - 5:41 pm. A ♀ Ruddy Duck is at P23, now drifting S. 5:47 E♀ coming out from Q27 to O23 - fishermen at Q26 & 16. She is moving out to M20 as she goes S, - a dog is on the road - she went into P16 - now. 5:51 she is moving N at P20 to the general vicinity of the nest clump. A fisherman moved in there, throwing a plug out near her, she momentarily displayed facing the plug, then moved to P23.

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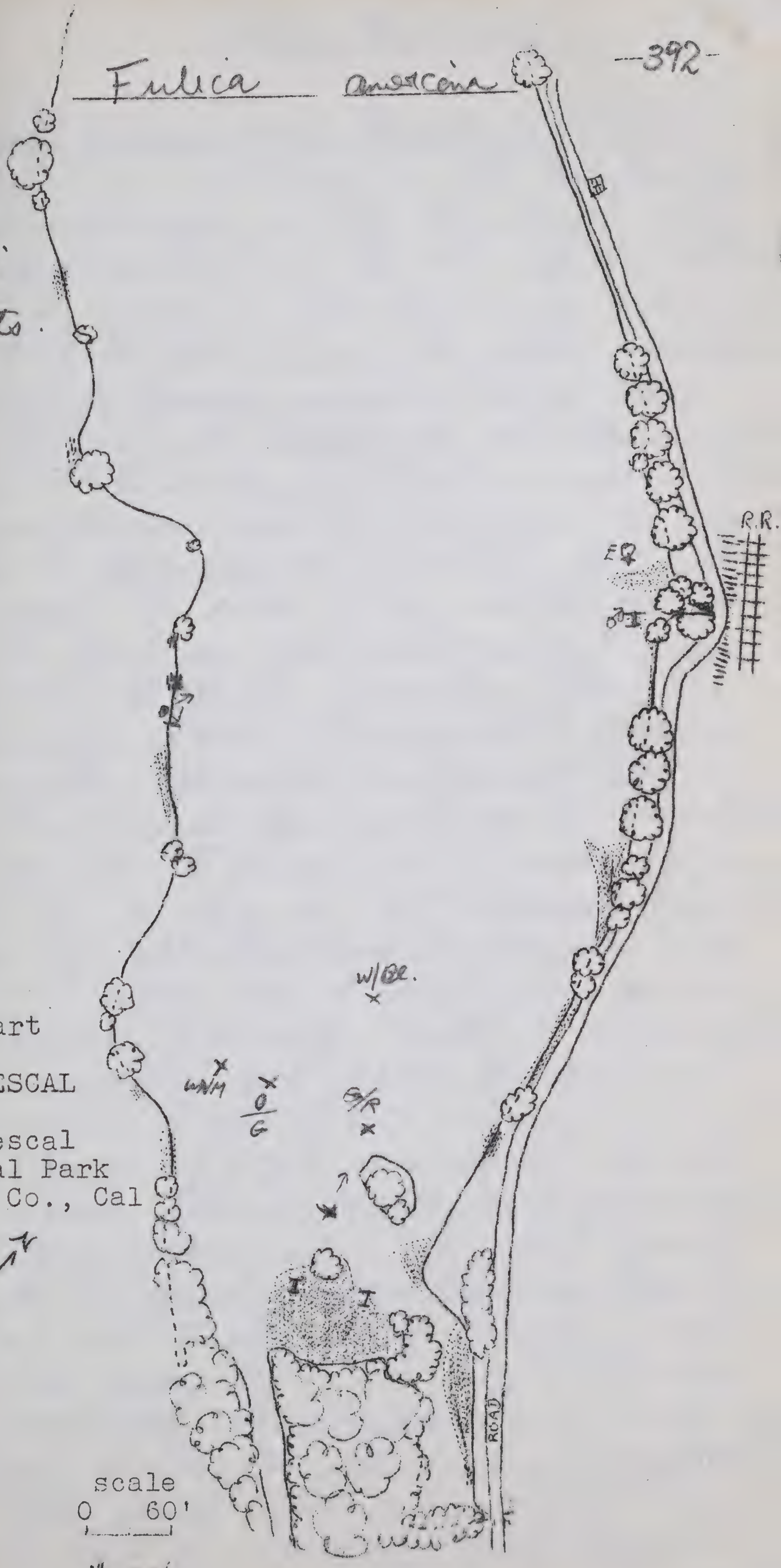
May 6--

5:42 pm.
Location of
Visible Coots.



south part
of
LAKE TEMESCAL

Temescal
Regional Park
Alameda Co., Cal

N
W
E

scale
0 60'

1" = 120'

I iris
cat-tail

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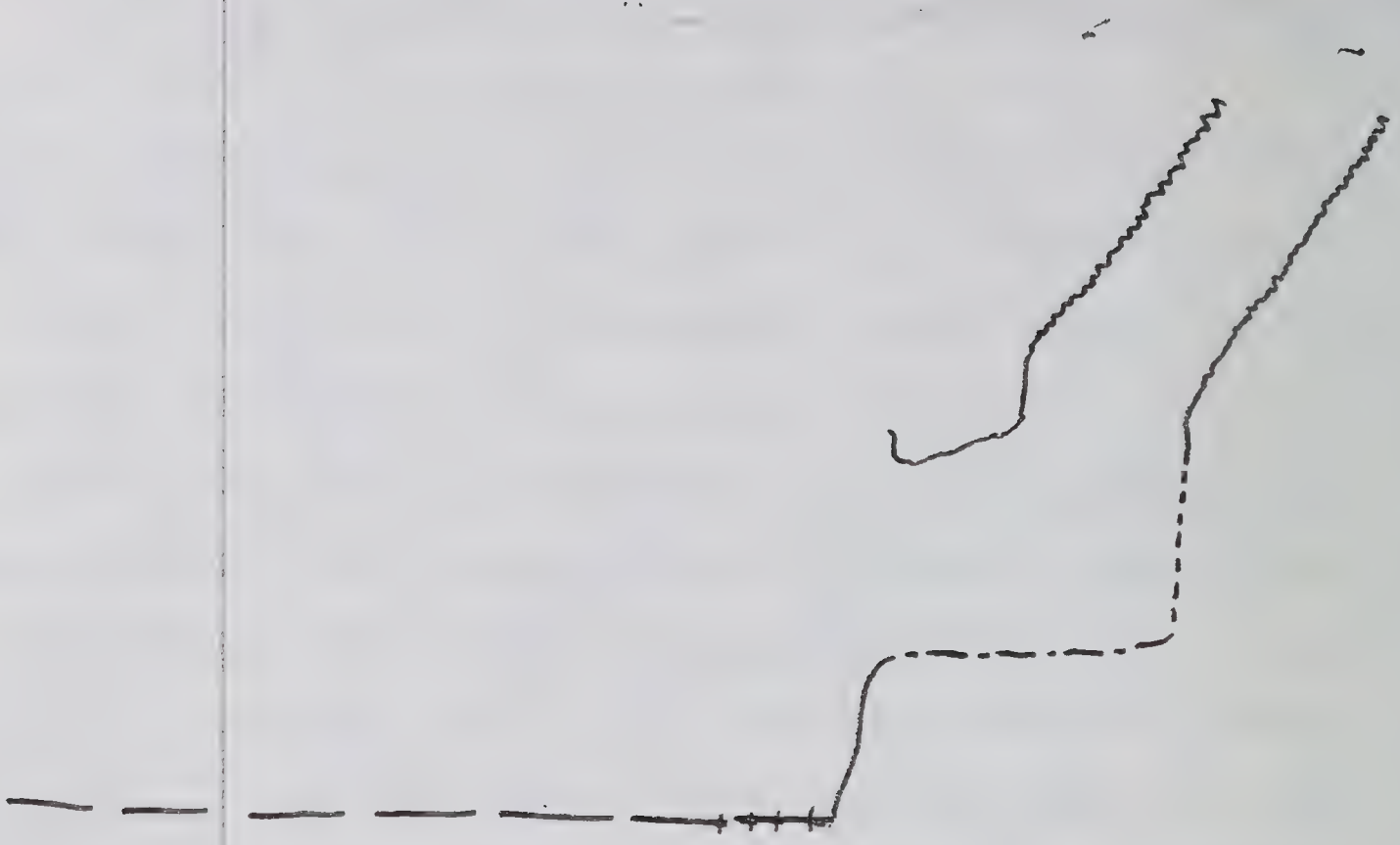
1950

Fulica Americana

May 6 Lake Temescal, 42d St, Alameda Co. Calif. -
5:55 p.m. a chase from SE territory and paired display at J9, the chased bird apparently being the ♂. At that time ♀ moving S from 924 via O22 to O19 to feed among the willow branches. Ruddy Ducks spend a lot of time feeding and displaying at the mouth of the S inlet without incurring the antagonism of the SW pair. 6:00 p.m. ♀ moving on S to P16. 6:01 saw 3 birds, (2 W & W/Be) at M15 and so she charged out from P17 to M15, causing them to move S & W. No splatter, chase or calls. W birds mobbing at L14. 6:04 she has returned to the cat. tails at P16. 6:10 p.m. ♀ moving N from P16. 6:14 p.m. W♂ chased M♀ at L14 - splattered and displayed. Then M♂ came up at W♂, causing him to dive to escape. Both M birds display and so did W♂ when he surfaced. 6:16 ♀ at Q27 moving S. 6:18 she is at P23 moving S. At the same time a UNM bird came into the willows at F22. ♀ going to P17 and working down outside edge of cat-tails, still moving S. all the way to N12.23 -6:32 p.m. where she partially displayed but I could see no bird for her to display against. The bird that was at F22 is a ♀ and is now out and moving S, joining ♀ at H18. 6:24 ♀ moving



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May 6 Lake Temescal, 420 ft. Alameda Co. Calif.—
N at P15. 6:26 E♀ is at G18 standing on floating cat-tails while feeding in the water. 6:28 she is moving S to P17. She stopped to feed at P16. 6:34 E♀ out of sight, two birds, one I suspect is G/Br - the other is W-O/B are moving S down the middle of the lake. They are opposite me at I20, swimming close together W-O/B following. His head feathers still seem pretty well stuck down. A light glow, but not direct sun, is on the cat-tails along the E side 6:38 p.m., only 5 coots out and active. the 2 W-O/B at H17, W/Bl at J15, G/R at J19 and a bird at J8. Now, 6:40 E♀ is moving N at P21, G is moving out from G13, followed by W♀? E♀ went by the nest, going on to O25 at 6:42 - 6:43 E♀ at G28, still going to P31, 6:44 she is at P32, not feeding much, poking along and examining things tho. She is at O35 now, 6:46 p.m. 6:47 she has found something to feed on in the Tampas Grass near the boat dock at about O37 or so. She moved out from there as some boys went by but came back in as soon as they passed. 6:50 p.m. she is coming S now at O35. She moves very close into shore along the open area N of G28. W♂ got into N15 before moving back out. E♀ is still moving

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~~Lake Temescal~~ F. americana 395

May 6 Lake Temescal, 420 ft., Alameda Co. Calif. - S at Q25, - 6:55 p.m. Now she is coming around P23, giving the nest clump wide berth as she moves S to reach P16 at 6:57 p.m. She went clear to O13 before some boys came along and ~~she~~ she moved to cover under the willow at N14. 7:02 she is moving N outside the cat-tails at P16, now she is at P17, but went into cat-tails when some fellows appeared on the scene. 7:05 p.m. B/R chasing W/Bl at I10. 8:00 p.m. a bird on nest J6.5, couldn't tell which sex. 8:04 p.m. tagged ♂ on nest Q22. By 7:30 p.m. all the Coots were in night lodgings, at about 7:55 p.m. two birds were at E13, in ~~the~~ water.

May 7 same locality. At 3:05 a.m. a bird is on the nest J6.5, can't tell which one, facing S. At 3:20 a.m. a bird on nest Q22, can't tell which bird here either, yet. 3:49, was finally able to ascertain at the ♂ is the bird on nest Q22. Back at 3:57 - checked nest J6.5 - seems to be the ♂ on the nest but couldn't be sure, flashlight too dim. 3:58 - E♀ at P17 or so "punking" answered by a "pukk" from further S. First glow in ~~the~~ E sky. 4:06 - E♀ "poonking" at P17 or 16. 4:30 - ♂ on nest Q22 gives several "pukks". 4:31 - ♀ "punting" to the S: (E♀?). I have moved from directly opposite the nest

May 7 Lake Temescal, 420 ft., Alameda Co., Calif. — so as to disturb the E♂ less, 4:33 E♀ punks unking at P16(?). 4:46 some loud ♂ "puhks" from someplace to the S, perhaps from the W pair. Mallards and Ruddies both active but still no Coots out from their night quarters - 4:50 a.m. The W pair are giving frequent "poonks" and "puhks" but from in cover. 4:53 - E♀ "punks-unking" from S of S20. 4:54 - E♂ puhking and E♀ moving N from her nights quarters, until she was opposite me where she stopped. 4:55 a.m. the ♂ is off the nest, as the ♀ displays against me, he moves S, she "punts" some and now 4:56 a.m. moves to the nest clump, and into it. E♂ and a bird at G8 are the only active ones on the lake - 4:58 a.m. 5:00 a.m. Jim moving across the lake. 5:02 a.m. SE♂ must have just been ~~released~~ relieved on the nest, first he routed W/Bl from J8 chasing to J13, then SW bird (♂?) came out, they displayed he looped back N of the island to attack M♀ at K7.4 and drive her out to L11. No reciprocal attack by M♂. Then SE♂ went back into his corner. 5:13 - E♂ feeding at O21, cut back into the E inlet. W pair at F22 when I got near there 5:12 a.m. 5:17 a.m. E♂ cut around P23 into E of nest clump, where he is feeding 5:19

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May 7 Lake Temescal, 420 Ft., Alameda Co., Calif.—
5:21 - he is still feeding E of the nest clump. 5:25 - E♂ feeding at P17. 5:30 - E♂ moving S to P14, then back N. All the Coots seem to have been out and active since about 5:15 a.m. 5:40 a.m. the tagged E♂ is resting and preening at Q19, ~~then he moved to~~ at 5:47 a.m. he moved out from in the willow at Q20 and is now feeding close by there at Q20.3. 5:51 he has moved to Q26, and on N. 6:00 a.m. E♂ is feeding by the Pampas Grass at O37, just having moved S from N of the boat dock. 6:04 E♂ moving S via M32 to P23. A pair of Mallards have him "pushing" as he swims in close to the nest clump, and they swing, giving him wide berth. Now a Mallard (♂) moves by the nest clump, unmolested by E♂ feeding at Q22.16. 6:08 a.m. he has moved back N of P23. 6:10 a.m. now he is feeding at Q27. 6:17 he has moved N to Q29. 6:20 E♂ has moved N to O33. 6:22 - W/Bl is moving into P25 but turned and came back out before even getting very far. E♂ was at O35 at the time and as far as I could tell from F20, no threats were made against W/Bl. W/Bl now has moved S to L18 at 6:26 a.m. 6:28 a UNM ♀ moved into F22 and W/Bl followed along not too far out, but never actually got in

Fulica americana

May 7 Lake Temescal, 420 ft., Alameda Co., Calif. — closer than H22. 6:32 E ♂ back to Q24, At 6:34 he had moved to P16 where he did some "pumping". Was answered by ♀ at E-G 26-29. 6:35 he is working along the c-t edge (cat-tail) at P16, foraging. @ 6:45 he is at P14, starting to work N. 6:47- seen just on top of cat-tails in nesting clump. 6:48 he is moving N from P15 on outside of C-T. He is head bobbing as he goes. 6:51- he is moving N to Q20.3, to Q22.16 at 6:53 - now a fisherman at Q20.8 and E ♂ is feeding unconcernedly at Q22.16. 6:56 he has moved to Q23.11 to feed. Now 6:59 a.m. the fisherman has moved to P22, E ♂ is at - can't see him - but at least he is not in S of the nest clump in defense. He's been at Q23.12 all the time, feeding among the cat-tails. 7:03 Now, 7:04, a bird is moving down close to shore from N of the boat dock, as far as O30 before swinging out towards the middle of the lake. 7:07 E ♂ just moved from E of nest clump and is now preening at Q22.16. The other bird, a ♀ (pointing) is moving S at I20. 7:10 - E ♂ still feeding near Q22.16. 7:13 - still at same location. 7:14 he is moving by P22 to R23 at 7:16 - now feeding at R23. Foraging seems to be almost continuous in these birds, at least the E pair. 7:20 - he's still feeding at R23. 7:22 he is preening at Q23.14.

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May 7 Lake Temescal, 420 ft., Alameda Co., Calif. -
7:25 - E♂ still preening at Q23.14.
7:28 - he has moved S to feed at Q21.7.
7:32 - he is out of sight 7:34 - he is and has been, at Q21.24. 7:36 he is at Q22.24.
~~and the~~ a ♀ poorked 3 times, it was at bird at H21, a marked ♀ (Bl/O?). 7:38 a.m. he is "pukking" at Q22.16. 7:41, still feeding at Q22.24. 7:42 - he moved to Q23.14 to feed. 7:46 he is preening at Q23.14. 7:49 - still preening. 7:51 - still preening. 7:53 he left Q23 and moved S to Q21.3. 7:57 hes out of sight. 7:58 he's just S of the nest clump, now working N on the W side of it, then around the N side of it. 3 people are fishing at Q21, and he seems concerned tho he is not patrolling against them. He is still in just N of the nest clump. at 8:00 a.m. 8:02 he is still in the area just N of the nest clump, as the 3 fellows continue to fish at R23. 8:03 the E♀ gave a couple of "punt, punts"; now the ♂ 8:04 moved from P23 to Q22.18, giving a couple of "pukks". One fellow is still fishing at R22. Now he has left 8:05, E♂ is at Q22.18. 8:06 he is at Q22.17. Now the fishermen are at Q26 and north and E♂ is feeding at R22.10 - 8:09. 8:12 E♂ out of sight. 8:13 W♀ chased a marked ♀ (Bl/O?) from G17 to J17, then tried to chase W/Bl at K17, but W/Bl moved only a couple of feet, turned around facing

W. GULLION
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Fulica americana 400

May 7 Lake Temescal, 420 ft. Alameda Co., Calif. —
W♀ are churned, W♀ retreated & W/Bl stayed put. 8:22 a.m. E♂ is feeding at R22.2. 8:24 he crossed to R23.21. 8:30 a.m. E♂ feeding at R22.10, a fisherman at Q21. 8:33 he is sorta fooling around, feeding in the E inlet. At 8:36 he move S from the inlet to P21, 8:39 he is back at the S side of the nest clump, working in edge of the cattails, 8:40 a.m the ♀ came off, met the ♂ at Q22.21, she moved S, he went on into the nest clump. A fisherman has been at R22 since about 8:35. 8:41 the ♀ has moved rapidly S to P16 and to P15 where she is now feeding. 8:46 a bunch of noisy people coming up the road, chased her out of the willows at P14 where she had apparently been since about 8:42. 8:44 a.m. she is feeding at P17.19. It just occurred to me why the coots are in the area G–J 11 & 12 so much, that is the area of the shallow reef, where they can get food without having to dive so deep for it. E♀ has been out of sight at the P16 area since 8:44 – 8:55 a.m. 8:57 she is preening at Q19.12, don't how long she's been there, but a moment later see left. At 9:00 a.m she is feeding at P17.12 9:01 she is moving N via O19, past the nest clump to O23, into Q26, 9:03:30 and continuing N.

G. W. GULLION
1930

Fulica americana

401

May 7 Lake Temescal, 420 ft., Alameda Co., Calif.—
to Q28, where some kids scared her out and she is moving S via P27-cutting back into Q26 at 9:06 and moving on S. to Q24 at 9:07. Ato ~~d~~ P23 at 9:07:30. to feed at P23.5. 9:09 she is cutting out to O23 to pass to nest and now is coming splattering across from O20 to I20 to attack Bl/o 9:10 and chase her to G18 to I16. now in display she moved from I16 to M16 with W/Bl charging behind. At M16 she stopped, turned to face W/Bl and cackle-9:11. From there she moved to P15.12 to feed. 9:17-since about 9:12 she has been out of sight, 9:18-♂ on the nest has been giving "punks" at about 15 sec interval-apparently from on the nest. 9:20 ♀ moving N close to shore at Q17, but she turned around and went back to the c-ts at P17. Now 9:21 she is moving back N, slowly, not feeding. She went into Q19, now as people move up the road she's out ~~and~~ (9:24) to O18 and turned north again. 9:25 the ♂ came out to meet her at O21 and with audible sounds, they are moving around together, now at P22, (9:26) then the ♀ turned back to the nest clump from the mouth of E inlet (9:27) while the ♂ went to Q23, then to R22.10-9:29. 9:30-Lin leaving to refill my pen.

W. GULLION
1950

Fulica americana

402

May 7 Lake Temescal, 420 ft., Alameda Co., Calif. - 9:40 a.m. SE♀ is on nest J6.5, the male was at L9 chasing M♀. Back in position at 9:46 a.m. - a ♂♀ Mallards at Q21, E♂ heard, but not yet seen. 9:49 he is at Q24, probably was at Q23. W/Bl at J12 just got its tags caught in Potamogeton and as it struggled to get free several other Coots and Ruddy Ducks quickly gathered around close. At 9:51 a.m. E♂ + ♂♀ Mallards a few feet apart at Q25. 9:52 - W♂ chased W/Bl from J15 to J17. W-O/B has been in this part of the lake some this morning and right now is slowly working N from J20. 9:55 E♂ following closely behind a ♂♀ Mallards at Q26, now to P22, the Mallards cut in E of nest clump and E♂ right behind them. 9:56 - the whole lot are out of sight. 9:58 E♂ is feeding at R23.19, right against shore line, 9:59 he moved to Q23.14 and ♀♂ Mallards moved to R23. 10:01 the Mallards are moving out, E♂ is feeding at Q23.13. 10:01:30 now he is standing and preening. 10:08 he stopped preening, is now just standing, scratches the tag a couple of times. 10:09 he's preening some more. 10:10 has just standing, this last preen was only about 15 sec duration. 10:11 a fisherman at R22, he has moved to Q22.24.

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May 7 Lake Temescal, 420 ft. Alameda Co., Calif.—
10:13 the fisherman moves on & is still at ⊙22.24, feeding. 10:16 he is still feeding in the same area. 10:17 he carried a piece of cattail from ⊙22.24 to the nest, and the ♀ came off, going to ~~⊙23~~ P23, then to ⊙26.14 at 10:19 to feed. 10:20, now she is out of sight, 10:21, she is moving S from ⊙25, to P23, ~~one~~ to P22, S to P17, arriving there at 10:23, going to P16.19 to feed. 10:26- she is out of sight at P16, and just then she came out at P16. ♀ and started S, to ⊙14.24 at 10:28 where she met the ♀ Mallard and her brood of 10. She "pooshed" about the whole thing, then swanned and attacked the ♀ at P15.21. The hen missed at her but would defend her young, she now has 8 several went towards P16, E ♀ ~~attacked~~ chased one of them, now she is feeding at P15.9 10:30 and 2 yng Mallards must be N of her. then she moved to P16.2. the ♀ Mallard is returning to the island w/10 yng, as they all do. 10:34- E ♀ is out of sight at P16 10:38- a SE bird coming out from his area, splattering, chased NW from ⊿10 to ⊿13, the same chase also brought E ♀ out of P16 to N12, (10:40) now E ♀ is moving back N. the SE bird was not identified, but it should be the ♀.

W. GULLION
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Fulica americana

May 7 Lake Temescal, 420 ft, Alameda Co.: Calif.
10:42 - E ♀ lost - 10:43 she is at P15.22 feeding. 10:45 - she is feeding at P15.9 working N, 10:45:30 she left P17 with a piece of cat-tail, heading N via Q20 - some one is sitting on the bench at R21; she went directly to the nest clump, entering at 10:47, then a moment later she came out and went to Q24 via P23. At 10:50 the ♂ came off nest Q22, the ♀ came from Q23 to meet him at P22, they swam together for a moment, at 10:51 the ♀ is into the nest clump, the ♂ loafing at P21, doing some preening, 10:52 he moved to P22, and now 10:53 over to Q23. ♀ where he has climbed on some cat-tails to preen. 10:54 he's off the nest, and into the nest clump then it, and moving S at Q21, to Q20 at 10:56, then abruptly turning N as a ♂ Mallard approaches the nest clump, but stopping at Q22. 24 as the Drake remains SW of the nest clump, close to it. When the Mallard started into the nest clump, the ♂ moved over to rout him. The duck moved out to P21. Now a water spaniel is on the shore, at Q21, thinking about swimming, he's in the water, chasing the Coot out to Q21, the dog turned back, the ♂ Coot following a respectable distance behind, "parking" all the while. Now at 11:02 the E ♂

May 7 Lake Temescal, 420 ft, Alameda Co. Calif. — is moving S to O17, then spotted several birds at 15-17 M and he charged out to N16 to rout them, then turned back to P16. Thru here now at 11:05 with E♀ incubating. E♂ at P16 or thereabouts. Scotch tape looks like the deal for numbered eggs. As with both other pairs, one bird ~~at~~ in the SW pair has a square shield, like class 3, whereas the other has the class 2 type. Here also, is a ~~crease~~ line in the middle of the square shield. Both of these birds have yellow legs. Both are nearly and excited, one stood on a under water stick a minute and tried to slap but couldn't so, it found some floating cat tails it could slap. Egg G was laid in nest J6.5 since last evening. Both parents nearly, the ♀ was on the nest.

May 8 Univ. Calif. Campus, Alameda Co, Calif. — Among the several foods put in last Friday afternoon, the (today is Monday) fresh corn is most completely gone, not a kernel remaining on the five ears put in. The romaine has also been heavily used, the birds having specialized in eating out the center of the heads, leaving the coarser outer leaves alone. The ~~of~~ lettuce seems to be completely gone while the cabbage looks little used and the spinach appears to have been hardly touched.

W. GULLION
1950

Fulica americana 406

May 8 Lake Temescal, 420 ft., Alameda Co., Calif.
8:56 p.m. The ♀ was at P16, had to wade to scare her out; couldn't see the tag on the incubating bird, but it had to be the ♂. Checked the nest J6.5 about 9:10 p.m. Forgot to check the sex of the incubating bird, but at 9:15 the ♂ was on the nest. At the earlier check, ~~the~~ egg H was found and marked, a new egg, supposedly laid last night.

May 9 same locality - 5:30 a.m. Egg "I" in nest J6.5. ♀ was on the nest and probably laid the egg since about 4 a.m. It was a bunch of white chalky stuff towards the small end of it. While the SE pair were defending at J6 the M♀ was "punk punking" encouragement from K7, in the cat-tails. At nest ~~F6~~ I6.1 the square shield, this time the ♀ was first to defend the nest, and supposedly the bird on the nest. The ♂ appeared on the scene a minute or so later. The SW♂ also has a square shield, but with an indentation as in the case of the SE♂. The SW♀ got on the nest once while I had my hand near it. 10 eggs. 5:45 a.m. 5:49 a.m. E♂ at P17, "punking" as I go by, and he moves north as I go along in my waders. As I run he splatters to keep up with me
Eggs #3 & 6 pipped in nest G22. #6

B. W. GULLION
1950

May 9 Lake Temescal, 420 ft. Alameda Co., Calif. — is broken three and thus must pipped, #3 is broken but no holes thru. The ♀ was on the nest at 5:50 a.m.

— Jewel Lake, 510 ft., Contra Costa Co., Calif. — 7:40 a.m. — the N pair with 3 yng crossed from E28 to L23 as the Ents. 133 class descended upon the lake. About 8 a.m. two more yng crossed the lake, meaning that 5 yng are in the N brood. Also a ♂ is at the S end.

— Lake Temescal, 420 ft, Alameda Co., Calif. ♂ on nest J6.1 at about 4 p.m. Couldn't tell which bird was on nest J6.5, but white material gone from egg 1. A new platform at K7.7 found. The ♀ staying in the cat-tails nearby. Two yng hatched at Q22, one marked L1, the other heard but not seen. Egg #4 pipped, about 3 pecks, no hole thru. The ♀ was on nest Q22 about 4:15 p.m. when we left at 4:30 the ♂ was on the nest. The shell of #6 was still in nest, and part of #3.

May 10 Same locality — At 5:30 a.m. one ♂E bird was at L2, moving N as I approached. 5:53 a.m. as I approach nest J6.5 from the open water, the ♀ came out to greet me. A 10th egg, #J in nest J6.5. Has a lot of white flecks on it and a blood smear, most of the white flecks are off #1. 6:03 a.m.

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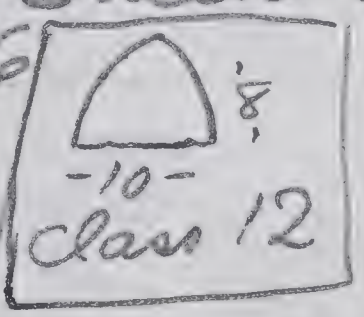
May 10 Lake Temescal, 420 ft., Alameda Co., Calif.—
E ♀ on nest Q22, E ♂ at ~~D17~~ Q20.
Two young in nest, + 5 eggs. The other yng was caught, marked R1. Both scooted over the side and in among the ~~nest~~ nest material as I waded out. Both parents defended vigorously. Egg #4 more pipped than yesterday, but not a whole lot so.

Univ. Calif. Campus, Alameda Co., Calif.
Bird \O\G - shield shape of 6 but 8 mm deep. photographed. 10 mm, a considerable recession. Shield seems to be flabby, not solid to the touch, guess I won't implant in this bird. Legs yellow-but with a greenish cast. This bird has a very docile temper. X R - photographed BW - shield —. Temper nasty, legs yellow-green. A couple of small estrogen pellets placed under this bird's skin. Shield 8 × 10 mm, shape of 4 or 6, very swollen. Wound sewn up to prevent pellet coming out.



Tags on this bird replaced with a new "overlapping" style Y-X R. \W\B - shield 3, very swollen. Legs with a yellow tinge to the green. Temper mild. P/LG - shield 3 SS, legs green with very little yellow, temper bad. Incidently, I got some sort of an insect off of \O\G - it doesn't look like a Hippoboscide

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May 10 Univ. Calif. Campus, Alameda Co., Calif. -
O|Br - The red part of the shield on this bird has been torn off. It is bleeding some, but not badly. Shield is in a small S class. It is rather wrinkled around the base. Legs at least YG. Put a white leg band on this birds right leg. X|G - legs YG, shield about the shape of class 10, but 10×10 mm, swollen. Temper bad, as in the last 3 birds. P|O - shield 3S, legs YG, temper not bad. Green ninbred band on leg (rt). Br - legs match nearest JG on plate 21 of Maerz and Paul, my G category. Shield 7S S, temper not bad. Bird G-Y|B - shield 7F photographed BW. legs YG. Tags removed, yellow band on right leg. Bird W-R, legs ~~R~~ YG, temper not bad, photographed BW - shield 10SS. A fair sized testosterone pellet under the skin of the back, and the incision sewn up. Egg #4 from nest M25.19 at Jewel Lake, measures 15.4 × 31.3 mm. This egg is about typical for those from that nest, 5 of which hatched, out of 7.

Lake Temescal, 420 ft., Alameda Co., Calif.
5:23 p.m. O is feeding in the South Bay, at L2. 5:30 p.m. SE O on nest J6.5, the ♀ was at L6. 5:31 p.m. a bird at K7, "punk-unking" When I went in there, one bird

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May 10 Lake Temescal, 420 ft., Alameda Co., Calif. — Started to census as I looked over the new platform which seems to be developing more than the one at K7.4. The new platform is at K7.8. 5:36 p.m. a bird is slapping its foot on that platform. Two unmarked birds were out from there, and at least one of them was not the SE ♂, I think one was the SE ♀, curious to see what the M♀ was fussing about. That M♀ now is noisily in her K7 bailiwick. 5:43 p.m. as I approach 922, both birds are off the nest. The ♀ was S and followed me up from about P17 as I came, "pooping" as she came along. The E ♂ may have been on the nest, at least he was in the nest clump and came out as I approached. E99 #1 hatched yng partly clipped L2. E99 #4 [redacted] 34.2 × 51.0 mm. #5 — [redacted] 35.7 × [redacted] 49.4 mm. #7 — [redacted] 33.6 × [redacted] 50.5 mm. #2 — [redacted] 34.3 × [redacted] 49.5 mm and pipped. All 3 hatched yng are in the nest clump. As I worked in the nest clump the parents proceeded to move the yng down the lake to P17, the ♀ staying there to take care of them. 6:05 p.m. the ♂ is in the nest clump with 1 yng, a 2nd yng is at 922 moving out into the open water, while the ♀ has the 3rd yng down S. As the ♂ "pushes" the yng moves N toward the nest clump, having moved out to P20, then the ♂ came out to about P21.7 to escort the

May 10 Lake Temescal, 420 ft. Alameda Co. Calif. - yng on into the nest area. Checking back on this ~~egg~~ nest. If incubation takes 21 days, then the first two eggs began being incubated on April 18.

May 11 same locality - 5:40 a.m. - apparently the SE ♂ is taking on the M♀ as another mate. M♂ was swimming at L12 while the SE ♂ + M♀ were at K7. The SE ♀ is on nest J6.5. 10 eggs in the nest, apparently completed. I would sure like to catch the SE ♂. While watching, the SE ♂ chased the SE ♀ in the willows at K6 giving a low cough. ~~He mounted~~ She climbed on a branch and bowed and he mounted but did not copulate. Nest I6.1 - egg #1 ~~pipped~~ cracked, no pieces knocked out, #2 just 1 10mm crack, others all intact. I had my hands on this SW ♀ for a moment but lost her. The ♀ on Q22, also R1. Egg #7 pipped, but the big end was covered by the old fragments of egg #4, which may have prevented further pipping. #1 has a small crack in it, about the same as #2 at I6.1. #2 is pretty well pipped but not broken thru #5 is completely intact. While I was out at the nest, the ♀ took two yng from Q22 to P16. Checking there later I caught L1 & R1, both had been on the now rebuilt structure at P16.2. The ♂ came down to aid in defense of the yng.

May 11 Univ. Calif. Campus, Alameda Co., Calif.—
G-G♂ - Shield an R3S.- legs on the Y side of G, a greenish yellow. Temper not bad. Tag seems to be staying on OK. Readjusted the tag, that is moved the pin down to the middle, the overlap style. 10:00 p.m. the SE♂ on nest J6.5. A ♀ Ruddy was on the nest at J6.16 (7 eggs). ♂ stayed on nest while I worked the area. Nest I6.1, egg #3 pipped, eggs warm, bird off the nest. 10:05 p.m. E♂ on nest G 22. 3 yng on nest, one was R1, the other got off before I got there, the 3rd bird from egg #2, marked R3. The ♀ came N from P16 in answer to ♂ "puhks", leaving 1 yng "whewing" at P16. A short time later I could not see any birds on platform at P16.2.

Temescal

May 12 Lake Temescal, 420 ft. Alameda Co., Calif.—
At 5:33 a.m. SE♂ feeding at L1, raised his tail coverts as I approached. The SE♀ on nest P6.5. A moment later the SE♂ "puhked", from G8 or thereabouts. The M♀ was in her area "punk-unking", the SE♂ came into her, something went on in there then they came out, the ♂ "braced" with neck feathers expanded, the ♀ chasing, giving a "punk-unk punk-unk", as they moved out of sight around the S side of the island. The SE♀ from the nest replied with "punk-unks"

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May 12 Lake Temescal, 420 ft., Alameda Co., Calif.—
A moment later the ♀ was at K10.23 the ♂ had moved back to L 8.21. The ♀ ♂ has been out at L 14 all the while, taking a dim view of the whole proceeding. At 5:42 he "pumped" 3 or 4 times, but that all she had from him. Now at 5:43 the ♀ is bowing or "pointing" rather at K7. At 622, both birds are by the nest clump, I suspect the ♀ was on nest who was last to appear, the ♂ seemed to come from T23, in charge position. 5:49 ♂ on G22, brooding at least 2 yng. ♀ in clump nearby pounds-sinking. L1 + R3 both in nest. R2 found dead, floating on the water at J22.10. Egg #5 not yet pipped. Shell from last hatched still in nest. Tried to catch the SE ♂ but failed, examined nest I6.1.- no egg hatched yet, both parents in close, ♀♀ were on nests J6.5 & I6.1. Examined area K7, platform at K7.4 defunct, at K7.8 in good shape, and what may be the start of something at K7.14

=Univ. Calif. Campus, Alameda Co., Calif.-
6:45 a.m. checking the flock for social dominance etc, so far they do all contentedly packed together in SE corner of the area. 0 moments ago H6 wandered over to the fence and back. O/Br moved over to the SW corner and back. Bird ♂, formerly

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May 12 Univ. Calif. Campus, Alameda Co., Calif. – G-Y/B is laying down in the SE corner moving cat-tails around. – Dissecting R2 (of Q22) I found a lot of yolk in the gut, a very small ovary, and a typically shaped ♀ syrinx. Fixed some club feathers from this bird for later sectioning. It has a good layer of fat under the skin of the abdomen. Bursa 11.7 mm., shield 5.9 mm. Total T-MT – 43.9 mm. TM – 20.3 mm. MT 3 (MT) – 24.4 mm.

– Lake Temescal, 420 ft., Alameda Co., Calif. – A 2:53 p.m. SE ♀ on the nest, M ♀ at K7 heard "poonking". At 2:58 SE ♀♂ together, a ♀ Mallard with 12–14 yng at K6 in the willows. These are 1 or 2 day old yng. Egg #4 ~~pipped~~ crashed in nest I6.1. Egg #1 finally pipped thru. SW ♀ seemed to be nearest to the nest. 3:15 p.m. E ♂ on the nest, the E ♀ was at Q20 as I came down the road, but moved out to P20 and then down to the nest. About 3:20 p.m. I caught the E ♀, tagged her, measured and released her. She now ~~[illegible]~~ wears tag O-O/G, of the new "overlap" style, band 496-71657. She didn't like the whole affair, nor did the ♂ who displayed vigorously. When I caught her I noticed that egg 7 was nearly open, but still intact. At 3:40 p.m., when I checked back out, the yng had hatched. It was marked L2R2. 4:15 p.m. I have

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May 12 Lake Temescal, 420 ft., Alameda Co., Calif. - Seen at F20 for about 5 minutes and have yet to see the E ♀. The W pair seen to be staying together at H13, W/Bl and a marked bird are feeding at K11, while another marked bird (M ♂?) is feeding at L12. 4:25 p.m. I find a bird is hiding at F21. No. 2 birds. 1 - W-O/B the other is a UNM banded bird (W ♀?), I chased them out of the willows and they are both moving across the lake towards the E area, now at L, they turn N & S. The ♂ going N, the ♀ S. at about L 23 & L 19 respectively. No E bird showed any interest. 4:43 p.m. the a ♀ Mallard and 12 yng passed E of the nest clump. The E ♂ "barked" from the nest. The E ♀ "pounded" from Q 23(?), two yng coots crossed from Q23 to Q22 alone, but together, while the Mallard crossed with her brood from R22 to R23. 4:48 p.m. the banded UNM and W-O/B at JK25, apparently interested in spending the night at F22. There are 15 adult coots on the lake today; 0 probably being at the S end - 7 of which I have put on here. The W ♀ and M ♀ are both wild type birds, unhandled. 4:56 p.m. still no sight of the E ♀. 4:57 the W pair are feeding along the edge of cts at P15-16. The E ♀ where ever she is doesn't seem to be going to attack them. 5 p.m. they are feeding at the willow at P14,

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May 12 Lake Temescal, 420 ft., Alameda Co., Calif. — leisurely lolling around. 5:01 - E♀ is at Q23 feeding 1 yng. Fog is moving in fast, high. 5:02 p.m. now a bird M♀? at M10 no longer excites interest in G/R at K13. He has apparently given up territory. 5:05. W pair still at O14, enjoying themselves. These birds remained at O14 ~~for~~ until about 5:30 without being chased away. In fact, E♀ still has not shown herself 5:57 p.m.

May 13 same locality - 4:30 a.m. SE♀ on nest J6.5, ♂ came near by as I left and churned in the cat-tails. E♂ on Q22, but the ♀ ~~had~~ was in the nest clump, departing to Q23, with much "poonking" as I approached. It is just light enough to read the lines on this page, it is heavily overcast with fog on the top of the ridge W of the lake and a light mist falling, a breeze is blowing down hill - Mallards are active but Coots aren't, so are the Ruddies, Quail etc - 4:40 a.m. 4:45 a.m. ♀ on J6.5 - I waded out towards the nest, she came off. The ♂ chased her giving his coughing note, when they weren't displaying against me. All the while M♀ was at K8 "punting". A 4:53 a.m. the ♂ went on to the nest. At 4:56 a.m. the M♀ charged and splattered after G/R, formerly the M♂ chasing him to L12 and displaying

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May 13 Lake Temescal, 420 ft., Alameda Co., Calif. —
against him. The SE♀ was at J7 all the while. By 5 a.m. the M♀ is back at K8, "punt"ing while the ♂ incubates at J6.5. 5:06 a.m. E♂ still on Q22. ♀ nearly poonking, she was just N of the nest clump. Her tag is on crooked. 5:28 SW♀ came from nest I6.1, ♂ came in later. Egg #1, 34 × 48.4 mm. still not hatched but yng alive and active. #2 - 34.6 × 51.9 mm, yng still alive. 5:32 a.m. SE♂ came off nest when I approached and now he was heard at K5 or so, still off nest. #3 - 34.6 × 51.8 mm yng alive #4 - 34.9 × 52.2 mm - yng alive, egg pipped, #5 - 34.1 × 49.5 mm, egg pipped. #6 - 34.1 × 49.7 mm. #7 - 34.7 × 51.6 mm. #8 - 33.9 × 50.1 mm. #9 - 34.2 × 50.2 mm. #10 - 33.9 × 50.6 mm. ♀ stayed close by while I was measuring these eggs, the ♂ soon lost interest. 5:55 a.m. E♂ w/2 yng on the nest, eggs 1 + 5 both pipped now. E♀ was at O16, she flew to nest area as I started to wade out. 6:02 a.m. SE♂ is on nest J6.5 - the ♀ is in the willows at K6, the M♀ is at K7 punting and generally trying to get some attention. M♀ has a pointed shield as in class 2 rather than the class 9 rounded shield of the SE♀. At 6:06 while I was at K7, SE♀ splattered at M♀ who was under the willow at K8.1, M♀ did not give so SE♀ stopped and they paired displayed. The SE♀ didn't press the

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May 13 Lake Temescal, 420 ft., Alameda Co., Calif. - mate further returning to the S side. SE ♂ still on nest J6.5 - 6:15 a.m. By 6:30 a change was made, the ♀ being on the nest. 6:34 the ♀ was turning the eggs in nest J6.5. SE ♂ not seen, but at 6:33 the M♀ was making quite a bit of noise at K7. The alternate resting place for this SE pair seems to be in the cat-tails at L5. Now, at 6:40 a.m. the ♂ could be heard in there making low notes. At 6:41 he came out, fed a moment, then sailed into a bird at K5 (O ?). M♀ has been silent since about 6:33 a.m. (6:43) 6:48 a bird carried a long piece of dead cat-tail leaf from O13 out to K where it was dropped, then she cackled over it. I think it was the M♀. While I was writing she vanished and now strange noises are coming out of K7. SW ♂ is off the nest, "punking" in the S inlet. 6:55 as a ♀ Mallard w/10 yng crossed along the N side of the island the M♀ at K10.20 "punk-unrod". 6:58 a.m. E ♂ on Q22, punking about my presence, but not getting off the nest. The ♀ is apparently not around. The ♂ apparently does a big share of the incubation during hatching while the ♀ takes care of the yng. No ♀ is at Q23, now she is "pooping". She was at about Q23.9, in the cat-tails. 7:03, the ♂ got off the nest for a moment, fed on the N side on some dead cat-tail stems, then

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May 13 Lake Temescal, 420 ft., Alameda Co., Calif.— got back on the nest. He was off for about a minute, 7:08 a.m. SE♂ on raft at J8 preening while M♀ feeds at K8, SE ♀ on J6.5. 7:12 SE♂ still preening. W/Bl + a marked bird bowing + billing at 15 15 while ~~[illegible]~~ G/R threatens at K14. 7:15 SE♂ stopped preening and a lot of low "punts" are coming from K7. 7:16 - a SW ~~♀ bird~~ attacked and chased 2♂ Mallards from H7, the ducks flew to get away. Now she has chased out 2 more ♂ Mallards from the S inlet. M♀ on the platform at K7.8., preening, silently now. She then "punts" a couple of times, no response from the ♂. Leaving at 7:25 a.m. a bird, ♀ on nest J6.5, SE♂ comes in close to nest then moves on to willows at K6.

May 14 same locality - 10:14 a.m. a chased by E♀ at M11, chasing M♀, then a paired display there. M♂ charged but did not seem to actively engage in the fight. SE♀ off the nest and at L6, SE♂ on the nest J6.5. 10:17 M♀ moved to the platform at K7.4 where she gave a series of three loud "punk-unks". Egg 1-4 hatched in nest I6.1, all four in cat-tails, but was not able to get any. #5 + 6 pipped 7-10 still unmarked. All eggs hatched in nest Q22, one yng in nest, clipped L4. A ~~[illegible]~~ structure with ramp is at Q23.8. Found yng R3, L1, R1 in cat-tails P-R23.

May 14 Lake Temescal, 420 ft., Alameda Co. Calif. —
Noted that the L1 & R1 both have yellowish legs now instead of the earlier green. 10:55 a.m. L1 fought quite strenuously lashing at me with its feet and bill, in a pattern identical to that of the fully grown birds. None of these young show any indications of fading plumes. The S W ♀ got on the ramp in nest defense today while I was standing beside the nest.

May 15 Same locality. A platform at L5.24 that must be a nest platform, it has quite a bit of fecal material around it, is not very elaborate 5:29 p.m., no birds on nest J6.5, but the eggs are warm, and at 5:31 p.m. both parents are in the willows at K6 defending. ♂ is working on the structure at ~~K6~~ K7.17. Egg #5 + 6 hatched in nest I6.1, egg #9 missing, #7 pipped, #8 + 10 unmarked. Yng in nest marked L1. Both parents nearby but not vigorous in nest defense. The structure at K7.17 is about 1½ inches high, no particular shape, composed of both dead & green cat-tail leaves. It is on a dead cat-tail stem lying on its side. What may be the beginning of a ramp faces the west. The structure at K7.8 is almost completely gone but the one at K7.4 is still in good repair. The nest at J6.5 has been lined all the way around with

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May 15 Lake Temescal, 420 ft, Alameda Co. Calif.
brown willow leaves since ~~last~~ spotted.
At this moment (5:48 p.m.) W/Bl + 2 UNM
are feeding at N 12 not molested by an
E bird at Q 22. While he was at P 15
they started moving out to avoid
his charge. 5:54 p.m. as I moved
north along the road, the E ♂
splattered from N 12 to P 15 and from
P 18 to P 21 to keep abreast me.
When I arrived the E ♀ came off nest
Q 22 = I could see at least 3 yng on
the rest.

May 16 same locality - at 3:45 p.m. SE ♀
at L 2 - SE ♂ on nest J 6.5. About
4 p.m. one of the 5 or 6 yng caught &
clipped R 1. Egg #7 still pipped,
but neither #8 or 10 are. Still no
sign of #9. Both parents close by
defending, but not on the nest.
Nest at K 7.17 still being worked on.
Structure at H 7.25 pretty well
worn down but still in use. Nest
I 6.1, being on a group of standing
dead cat tail stems, has not
settled as if builds up, hence has
grown to quite a structure. It is
lined with pieces of shot cat
leaves, perhaps being converted to
a brood nest already. The nest
at J 6.5, despite the vast amount
of material piled on it has evidently
settled with the result that it
is not a great deal larger than
it was when first seen.

May 16 Lake Temescal, 420 ft, Alameda Co., Calif. —
The E♂ was on nest Q 22 at 4:15 p.m. while the ♀ was at Q 23.8 with at least L1. She and it got off as I approached, the ♂ came over to help her defend. Apparently both birds brood yng at 4:20 E♀ crossed from P23 to Q 22 with 4 yng. As she moved S to Q 20, the yng all went into the nest clump, and tho I couldn't watch them, the calls indicated that they all climbed on the nest under the ♂. Pair W seem to be spending a lot of time at LM14-15, but occasionally, as just now, they go back to their area to chase out w/Bl + UNM. They seem to be trying to pick up territory with cat tails in it.

May 17 Univ. Calif. Campus Alameda Co., Calif. —
VOG - shield still seems to be receding, no indication of wing molt, pin in securely.
P/O, legs yellow green, shield pure is enlarged, pin (silvered) in OK but silver wearing off, no wing molt.
WP - shield very much enlarged, rounded, like old Lake Merritt birds, legs YG, pulled primaries badly deformed.
G-VG, shield shows some regression, flattening of white part as in VOG (it was present in VOG thusly some time ago, this is the 1st its appeared in this bird) legs scales still peeling revealing an even more yellow leg, no wing molt, pin in securely. P/LG - legs YG but still scaling off, no wing molt, shield SS,

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May 17 Univ. Calif. Campus, Alameda Co., Calif. - sidrod pin still securely fastened. Y/G, legs YG, no wing molt, shield S, but may be in regression, pin not to securely in, gray flecks still on head, brown heal. 496 - legs a faded YG, shield almost F, probably as flat as it can get. No molt in wings, seems to be rapid healing of area where pin was. 497 - on left leg bands R/W, shield at most SS, legs, at least left, beginning to show signs of molting, right still blue-green. This bird still looks immature in all its characters. O/B - mid-toe nail and first joint on right foot missing, red of shield still absent but with healing indicated, it is swollen nearest. Heel brown. Y-Y/R legs yellow-green, heel brown, shield SS, no sign of shrinking, photographed in BW. 2 estrogen pellets located under the skin, healing completed without complication. No wing molt. Shield on W-R is swollen with a band of new growth of red laterally & posteriorly. This red drops off rather readily. Shield now S shape of class 10 but 10×10 mm in size. Photographed in frontal & profile, in B&W. Legs YG, little brown on heel.

- Lake Temescal, 420 ft. Alameda Co. Calif. - 3:25 p.m. SE ♂ on nest J6.5, SE ♀ at K6 in willows 3:30 p.m. 1♀ just out from c-t at K8. As I waded in

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May 17 Lake Temescal, 420 ft. Alameda Co., Calif.—
she moved into the open water and a moment later SE♀ came across from J6, chasing her to J9 where a paired display took place. 3:35 the 2♀♀ are still in paired display at J8. In this display the neck feathers are erected

and the tips of the wings actually extend posterior to the up-turned tail. Wing tips are crossed. 3:36 p.m. SW♀ off the nest, "poonking" at H7 while facing me at M9. A bird I take to be G/R is at J9, indicating he would like to come in to join M♀ but he is apparently afraid to. I expect she would attack him if he did venture in. SE♂ waited until I was nearly to the nest before vacating it. All the eggs are gone from nest I6.1. #7 probably hatched, but I don't know what happened to #8 & 10. Nest warm so it is probably being used for brooding. Digging into the nest material I find egg shells mixed in layer after layer, as deep as I went. But no sign of shell from #8 or 10. W/Bl and (Bl/O?) feeding contentedly at K13. I'm not sure but that the scarred bird with W/Bl is G/R. It is slightly smaller but just now I was able to acct for every bird usually at the S end but I couldn't acct for both Bl/O & G/R as scarred birds. That once

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May 17 Lake Temescal, 420 ft., Alameda Co., Calif. - I heard a "puhk" from the bird in question. Shall have to check this further. 4:07 p.m. both E adults at P17 with 3 yng scattered from P18 to P20. Much "pumping" and "ponking" and walked along the road. One yng tried to dive twice but was unable to get any more than its head under water, it was on open water, no cat-tail leaves to duck under. - Examining partly decomposed cat-tail stems at P23.13 where both E birds have been ~~feeding~~ feeding, I found no insects as Dr. Leopold had suggested, but did find very extensive colonies of Bryozoa. In some places it looked as if the Bryozoa had been picked off the stems, that is, the stolons were torn and broken with fragments scattered around. Also a few clumps of snail eggs were present, but surely not in sufficient numbers to be worth diving for. The inner part of these stems often consisted of a slightly decayed material of almost mushy consistency. This is probably the food involved, tho they might possibly be eating Bryozoa also, (?). The brown fine on the willows is no longer sharply apparent. With Potamogeton reaching the lake surface from + 6 feet deep tho at P21, there surely is no food shortage anywhere on the lake.

May 17 Lake Temescal, 420 ft., Alameda Co., Calif.—
4:33 p.m. E♀♂ at N12, 3 yng scattered from P15 to O13. L4 caught at O13, all wet and not looking too healthy. A bird (M♀?) in display at K11. The Carex = Cyperus, is probably Cyperus virens. — Incidently, yesterday when I started to pick up L1, it reared back and lashed at me with its feet and pecked vigorously with its bill.

May 18 Univ Calif Campus, Alameda Co., Calif.—
The insect taken from [illegible] on May 10 which I believed to be a Hippobosid proved to be a Hemipteran of the genus Psallus, a ~~species~~ group known only as herbivores. Dr. Usinger said it undoubtedly was of accidental occurence on this bird.

— Jewel Lake, 510 ft., Contra Costa Co., Calif.—
At 4:35 p.m. a ♂ & ♀ bird was seen at F13. I suspect that only the N pair are on the lake but I am not sure. Now both are at G20, the ♀ having moved out from H17, the ♂ from L22. No yng around. 4:50 p.m. Now, as I start walking N, both bird move up the lake opposite me. 5 p.m. going into nest M25.19, I was unable to arouse any interest on the part of the two birds. One of the birds moved over to E27 where it vanished for a moment but then came back out to meet its mate at F21, and they drift S. No sign of

Fulica americana

May 18 Jewel Lake, 510 ft., Contra Costa Co., Calif. — Yng. Nest M25.19 looks to be in good repair yet. Platform at B14.5 looks as if it may still be active, but no bird to show any interest, laid a green cat tail loop on it. 5:40 p.m. I've been here over an hour, I've looped the lake in the cat-tails, conditions for observation and hearing have been ideal, but I failed to see or hear more than the 2 adult Coots, presumably of the N pair.

May 19 Lake Temescal, 420 ft., Alameda Co., Calif. — The SE ♀ is on nest J6.5, while the ♂ preens at L3. — 7:20 a.m. 7:35 a.m. I can account to 13 coots on the lake today (see next page). About this same time, M♀ "braced" as the SE ♂ chased her off of the cat-tails at K7. Also some notes were given. It was not a closely pursued race. About 7:30 2 marked birds (ident?) were chased from N14 by E birds, they drifted out to J13 where they loafed awhile. I'm not sure what the set up is here now on the non-nesting birds. The W area seems to be occupied by only 1 bird, 2 birds, marked, apparently are paired at JK12-13 and looking for an area at O14 or thereabouts. M♀ is busy at K7, and 3 unattached birds were seen together at the N end of the lake. 8:00 a.m. SE ♂ moves into K7 with M♀, some noises come out of the area, then he moved on down

GULLION
1950

May 19

3 coots

Fulica americana

428

south part
of
LAKE TEMESCAL

Temescal
Regional Park
Alameda Co., Cal

iris
cat-tail

scale
0 60'

1" = 120'

R.R.

ROAD

Fulica americana

May 19 Lake Temescal, 400 ft., Alameda Co. Calif.—
to L4 while she remained at K7.17-
8:10 a.m. A marked ♀ is remaining at
N12, occasionally "pooonking". The marked
♂ that was at J12 moved to F16
causing the UNM previously there to
rapidly move to F20. 8:19 a.m.
the SE ♀ at J6.5 gave a series of low
"punk-unks" as some bird moved by
the nest. At this same time the
SE ♂ was on the ~~ramp~~ raft at J8
preening 8:21, he dropped off the raft,
move to K7 and then to L6. 8:33—
as the hen Mallard w/big brood of 10,
moves into the S bay, the SE ♂ came
out to meet them and to threaten them.
Since 7:20 a.m. the SE ♀ on the nest
has continuously faced the ramp, and
me, to the E. 8:40 some sort of a
chase in the cat-tails at the S end.
SE ♂ is at L5 so he's not involved
it may be Coots chasing Mallards
in the S inlet; in fact I believe it
is. 8:45 a.m. Clear, warm, no breeze
all the Coots are off the open water
loafing in the cat-tails and under
cover! Now, with the very abundant
food available, they apparently can
do their required feeding in a short
time and then retire to the green
and to pick a choice "pasture" foods.
8:50, since 8:45 a.m. SE ♂ has
been loafing at J7.9, picking up
things from the water occasionally.
During this same time ♀ has been

I. GULLION
950

May 19 Lake Temescal, 420 ft., Alameda Co., Calif.- loafing at K8, doing some feeding but not much. The SW pair seems to be constantly chasing Mallards out of the S inlet area. Mostly ♂♂. 9:08- the E pair moved S along the shore to M11, causing one bird to move S ahead of them. Then they started out to K11, but my strong caused E♂ to turn back. The ♀ got to J11 before M♀ attacked her chasing her to L12, where the E♂ turned to display against M♀. The E pair then moved back N. A short time later they were seen at M16, heading into shore with 2 yng. 9:32 a.m. SE♀ still on the nest. M♀ has been around her nest off and on all morning, grunting frequently. The SE♂ has been in the clump at K7 on several occasions, but never for long. About 9:30 a.m. a bird I believe was M♂ was looking shyly at K9.5. 9:35 M♀ in full copulatory display, grunting and head down, on shore at K8.7. SE♂ was at K8.25. His failure to respond, she moved over to him. He chased her, with coughing, she "grunking" and in a brace. In the brace she moved away from him, with her neck feathers extended. At 9:38 a.m. the SE♀ came off the nest, going directly to the SE♂ at K6.14, then he chased her, giving his cough, to L5.22. She dilled under his pressure 3 times, and cackled

7:38 ♂ K6.

9:41

Fulica americana

May 19 Lake Temescal, 420 ft., Alameda Co., Calif. - by 9:41 SE ♂ had returned to and was on the nest at J6.5. He passed thru the older flock of yng mallards enroute to the nest, they at about K7.21, without making a pass at any of them. As he was going on the nest, and for a minute or two after he was settled, the M♀ continued to "punt" at K7. Foraging Red-wings, moving in close to the nest, to within 1 or 2 feet in fact, get no response from the incubating bird. About 10:00 a.m. the SE♀ was chasing a ♂ Ruddy Duck at J7. Now 10:08 a.m. the SE♀ is at L5 with 2♂♂ 1♀ and a Mallard brood in the S bay area, L6 & 5. She is making no notes. 10:22 a.m. - the ♂ sits silently on nest J6.5 while several members of the mallard brood forage nearby. I suspect there will be no eggs in the K7 area until the J6 nest is hatched. Since the M♀ extended her territory S, I have not seen the SE♀ N of the K7 clump of cat-tails or the island, that is, in the channel. 10:35, M♂ feeding at L9.24, is the deepest penetration I have seen for several days. This bird I believe is M♂ (G/R) has a square bottom deeply incised shield thusly - . It definitely is a ♂ by call. 10:42 a.m. - ♀ Red wings feeding at L6.24 are being repeatedly attacked by SE♀.

Fulica americana

May 19 Lake Temescal, 420 ft., Alameda Co., Calif. - 10:49 a.m. SE ♂ got off nest J6.5, went to J7.12, no sign of ♀ around, now 10:50 he is feeding at J7.7, working towards the island. 10:52, still no bird on the nest, SE ♂ came in front of nest from ~~J6~~. J7.24 to willows at K6 to to L4 where he found the ♀. There was some "poonking" there. Then with lots of billing, nibbling and preening they worked to K6.14, where they lingered, nibbling, then at 10:55 SE ♂ moved to K7, where the M ♀ had been punting since he got off the nest, and the SE ♀ went over to the nest, being settled on it by 10:57 a.m. At K7 SE ♂ found M ♂ lurking close by and promptly took after him, chasing him both above and under water to about J14. 3 times the SE ♂ went under water after the M ♂, and once when the M ♂ surfaced he sure looked like a drowned rat. 11:00 a.m. I'm seeing W/Bl for the first time today, at I18. 11:25 a.m. SE ♀ on nest J6.5. 11:35 a.m. SE ♂ came out of K7, moved into willows at K6 and on S to L5. Incidently, while ~~the~~ M ♀ was out on shore in her copulatory display today, I noticed that she was YG legs. The bird I believe is M ♂ has bright Y legs. 11:45 a.m. SE ♂ came out of cat-tails at J7 and moved N out-of-sight. 11:52 two birds fussing in the cat-tails

Fulica americana

May 19 Lake Temescal, 420 ft., Alameda Co., Calif. - at K7. 12:03 p.m. SE ♂ at K5 "pubbed" several times, the ♀ "poonked" in reply and climbed off the nest, going to his location. Then the usual chase, she cackling and diving just ahead of him for about 30 seconds, then he moves towards the nest, climbing on it at 12:06, preening his breast feathers carefully before settling on the eggs 30 seconds later. The birds coming on the nest always preen breast feathers before settling on the nest. I suppose this is to dry them off and to get them fluffy before settling down. I have noticed that the nest 36.5 tips slightly as the SE bird preens on its edge before settling down. Conflict between the SE ~~birds~~ Coots and the ♀ Mallard w/10 yng must occur in less than 1 out of 20 contacts. Just after writing that the Mallards got too close to the nest to suit the SE ♀ and she quickly moved over towards them, giving a partial display ~~and~~ causing them to move away - 12:13 p.m. This SE pair of birds seems to make use of the entire area of cat-tail under their control. I don't know where the boundary between their territory and the SW pair lies, in the cat-tails, but they surely must defend one. I suspect it would be an extension of the

. GULLION
950

Fulica americana

May 19 Lake Temescal, 420 ft., Alameda Co., Calif. - boundary as it occurs outside the cover. 12:18 p.m. M♀ "punk-unking" at K7; then she gives a "punt" at three. 12:24 p.m. now the Mallard brood moves over towards the nest, and by it. No ~~interest~~ aggression because the SE♀ was at L4. 12:36 p.m. M♀ foraging at L9. M♂ at L11, M♀ moved to A11 and back. W/Bl moved out from N12 going W. No interest shown between G/R and either of other birds. W/Bl is moving off N, away from G/R. Every so often the SE♀ cuts across from L7.22 to K6.7- I wonder if she is coming out from a patrol against M♀. This time, at 12:51, she "punk-unked" at K6 and was answered by several "punts" by M♀ apparently from K7.4. 1:24 p.m. a dog wading in the cat-tails at the S end, H-L 5-6 caused SE♂ to get off the nest & SE♀ to move from L5 to nest area. Apparently no display was given. The dog was off the cat-tails by 1:25, now 1:27, SE♀ is climbing on the nest and after careful preening she settled up on the nest. 1:30 p.m. two W birds seem to be in their area. 2 p.m. SE♀ still on nest J6.5. 2:10 p.m. a momentary dispute at J7 apparently between SE♂ and a ♂ Ruddy Duck. Following the trouble SE♂ moved on to the

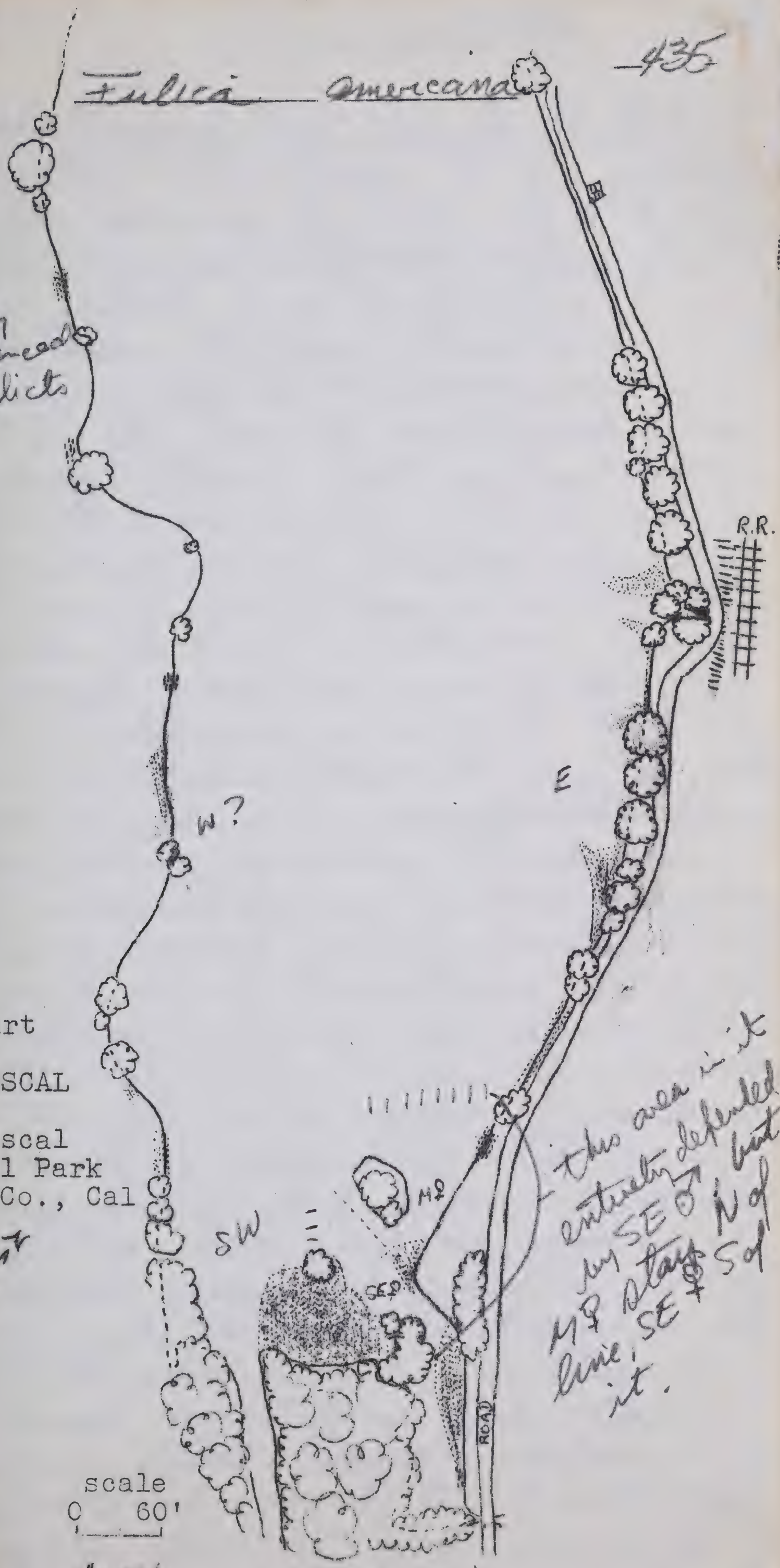
GULLION
19 50

May 19

Fulica americana

435

Territory
as evidenced
by conflicts
today



this area in it
entirely defended
by SE♂ but
M♀ stays N of
line, SE♀ S of
it.

south part
of
AKE TEMESCAL

Temescal
Regional Park
Alameda Co., Cal

N
W
E

ris
at-tail

scale
0 60'

1" = 120'

Fulica americana

May 19 Lake Temescal, 420 ft., Alameda Co., Calif. — raft at J8 to preen. A SW birds (ur?) was preening at I7.3, the ♂ Ruddy cut back into the ~~cat~~ willows at I8.24 which is on the dividing line between the two S territories. 2:30 p.m. as the SE ♂ crossed from L7 to K6, the ♀ on the nest "punk-unked" several times. But he kept going, on to L4. 2:34 - SE ♀ on nest is "punking" as a ♀ Mallard w/brood of 2 small yng lingers a few feet out from the nest. 2:36 - some bird just chased W/Bl from near the island to J17. It was a W bird. ♂ (O/G ?). 2:42 - SE ♀ off the nest, met her mate at J8 and went on the ~~platform~~ raft there he chasing, coughing, she "cackling". he mounted her, and intromission may have occurred, but it is doubtful. They both got off the platform, she dived, and by 2:45 p.m. he was settled on the nest. The M ♀ in K7 was "punking" thru the whole affair. I wonder if the M ♀ is keeping the SE ♂ in a copulatory state of mind by all her antics, but his ~~♀~~ monogamous nature prevents copulation with her, so he vents his desires on the SE ♀ when ever an exchange is made, ~~or~~ at least tries nearly every time. Shortly before 2:42 a SW bird was at F10.9 with one yng. W ♂ at G15 was in a threatening attitude, but did and

Fulica Americana

May 19 Lake Temescal, Kroft, Alameda Co., Calif. - said nothing. 3 other birds, 1 scared, w/RL + 1 UNM were feeding at N12. 2:54 p.m. a chase by SE♀ and a p.d. by SE + M♀ at J9.24. The SE birds seem to spend a lot of their feeding time working on Potamogeton at L4. 1-2-9-10. I have noticed both birds showing a preference for that one location. 3:17 p.m. SE + M♀♀ crossed wires at K7.8 - with a pd. the result. Neither bird gave ground but it amounts to a regular face♀ once she is unable to rout M♀ from her selected territory. 3:43 an unidentified bird splattered from L8 to M11 to go into display with E♀, then moving west to feed at J12, 2:46 - now returning to the W side of the island, perhaps the result of another bird moving out from E13, I suspect the aggressor in this affair was M♀ but it may not have been, it looks now as if it was M♂, still trying to defend M territory from E birds. It turned out that M♀ was at K7 all the while. 3:52 SE ♂ off the nest, by 3:53 SE ♀ on the nest and settled. M♀ doing some preening SE ♂ moved from K7 to L4 where he attacked a ♂ Mallard. The duck didn't move very far. There are some big fish or something in the lake that sure give the cat-tails a terrific nudge every so often.

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438

Fulica americana

May 19 Lake Temescal, 420 ft., Alameda Co., Calif.-
4:18 p.m. E ♂ came down, chasing 2 birds from N12 to K12, M♀ charged up to L11 and was joined by (M♂)? as they attacked E ♂, driving him back. Then one of the birds took after a scared bird driving it to I20, and then W/BL got chased to the same place. I lost track of M♀ in the glare of a western sun, here she comes being moved by a boat coming down the lake. SE ♂ was on the raft at J8, but left with the approaching boat. Now as the boat goes into the S inlet, all the birds are out of sight. 4:45 p.m SE ♀ still on nest J6.5. 5:14 p.m. checking on some splashing in the S bay, I found that ♂ had been chased into the water by a dog. Tags are still on okay, but seem to be blackening much as on WS on the campus. Feathers on head no longer seem to be flattened, shield still enlarged, and bird generally seems to be in top shape. 5:21 p.m. SE ♀ still on nest J6.5. She seems to face either S or E most of the time, while the ♂ generally faces N or W. 5:24 p.m. E ♀ just came down to rout a bird or two out from N13. 5:26 p.m. it should be about time for a shift on nest J6.5. The sun will be setting behind the hill pretty soon and all the birds are bursting into song:

Fulica americana

May 19 Lake Temescal, 420 ft., Alameda Co., Calif. - 5:32 p.m. the SE ♀ started "punking" on the nest, the SE ♂ replied with "punking", she came off the nest, met the ♂ at K6, they moved, she leading, to L5. She diving and cackling, he coughing. By 5:35 he was at the nest and by 5:36 settled up on it. The sun is just beginning to wane here. I shall leave now. In all, 15 Coots were accounted for on the lake today.

May 20 same locality - At 3:40 a.m. a bird on J6.5 that I believe is the ♀. Checked Q22 at 3:45 a.m. no birds present. As I moved to Q22, a ♀ "punk unked" several times at the S end, but I could not tell where. There is already a good glow in the eastern sky. 3:56 a.m. a noisy, active Mallard ♀ got SW ♂ started "punking", and perhaps he chased her, at least she flew to the channel and got the M ♀ calling. The SW ♂ replied, then the SE ? ♀. A W ♂ called. 4:00 a.m. Robins calling and starting to sing. Ruddies were displaying at 3:40 when I arrived. 4:13 a.m. a SE bird has ventured out from cover for a moment, still not light enough to see the lines on this page. It moved from beyond the nest to K6. A bird is still on the nest, no change. Was not able to see the shield. 4:30 a.m. the SE bird ~~off the nest~~ feeding at L4 - 4:35 - back

Fulica americana 440

May 20 Lake Tewascal, 420 ft., Alameda Co., Calif.—
feeding these some more. M♀ punking
a SW ♂ "punking". A Black-crowned
Night Heron is in the trees there, but
I doubt that is what the "punking"
is about. Lines readily visible on this
page now. 4:43 - M♀ "punk-punking"
answered by the SE ♀ on the nest, a
moment later 4:44 the SE ♂ in S
bay was punking about something.
Now 4:45 a.m. both M & SE ♀ are
giving low "punts", the SE ♀ ceased but
the M♀ is continuing. It sounds as if
the SE ♂ may be molesting Mallards
in the S bay. 4:50 a.m. SE ♂ working
into the S cat-tails, must have found
♂ or a SW out of line, cause there was
a big splash and splatter then what
sounded like a chase at about J5.
M♀ continued "punting" until about 4:53
when SE ♂ came out from J7 and
moved over to K7. Then her "punts"
became "punk-unks". By 5 a.m.
he had left and she resumed "punting"
An occasional "punt" is heard from
the incubating SE ♀. At 5:05 a.m.
E ♂ flew out from O32 to
attack W/Bl at J33. The latter
dived, and surfaced, to be attacked
again diving again, with 3 repeats
finally moving to G33 where
E ♂ now longer chased and returned
to his area. 5:10 a.m. SE ♂ chased
M♀ to W side of island. Maybe he's
going to get her out of the SE area.

Mg 20 Lake Temescal, 420 ft., Alameda Co., Calif. — 5:32 a.m. sun is on the trees above the W side of the lake. 5:36 a.m. the attitude of SE ♂ towards M♀ is becoming increasingly aggressive, and I suspect she will soon be driven from this area. In this ~~the~~ last incident her cackling and brace was barely able to stave off a full scale assault. The SE ♂ started to display a couple of times, and actually got into a charge once. The charge and paired display have nothing to do with courtship. 5:50 a.m. SE ♀ still on nest. Apparently she not only got stuck with the males night shift but also has to sit her normal early morning one. 5:53 - SE ♂ chasing M♀ again, this time in the channel, and not with amourous intentions. 5:58 am. E birds at N12, no sign of young. They moved N abreast of me as I moved to their core area. No yng heard or seen but they sure kicked up a fuss when I got too close to the water at R23-24-25. 6:08 I am moving to F20 from L6 to watch the E pair & yng. At 6:10 SE ♀ still on nest. Arrived F20 about 6:15 but it was 6:22 before I finally was able to locate E ♂ w/1 yng at P23. 6:26 - E ♂ diving & feeding alone at Q24. Saw O grazing on the lawn at the S end of the lake about 5:40 a.m., SE ♂ was at L2.

Fulica Americana

May 20 Lake Temescal, 420 ft., Alameda Co., Calif. - 6:33 E ♂ is working out and S from Q22, then cut in and moved on to P17. 6:38 - moving back to L6. 6:48 - at L6 - SE ♀ still on nest J6.5 About 6:40 d found the SW ♂♀ at F7, in the willows with 5 yng, so they have lost a maximum of 2 yng since 2 eggs, 8, 9, 10 probably did not hatch. I don't know what did happen to them. 6:56, SE ♂ moved from K7 to K4 where he attacked the ♀ Mallard w/ her brood of 10. The M ♀ "punked" in response, the SW ♂ "punked" at the disturbance + 6:58 - Still some chase going on. 7:10 a.m. - the Rail is on the cat-tails just above nest J6.5. 7:11 a.m. the SE ♀ just gave a "punk-unk, punk-unk, punk-unk, poonk-uh, poonk-uh, poonk, poonk", and was immediately answered by M ♀ giving the identical call at K7. 7:13 - She going to the east for a moment. 7:45 - E ♂ splattered from P15 to chase W/Bl from N12 to I12, then as E ♂ returned, the W ♂ came out chasing W/Bl to I20. The whole affair drew a "punk" out of a S bird. The SE ♀ sitting on the nest, is busily "punting" and has been for the last minute. 7:52 a.m. 7:54 she is still continuing to "punt" and seems to be getting a little fidgety on the nest. The ♂ foraging elsewhere is paying no attention to her. 7:57 - a mob of birds just

Fulica Americana

May 20 Lake Temescal, 420 ft, Alameda Co, Calif. — descended on the play field. 7:59 - 1 ♂ Mallard chased another into the cat-tails at J6 & the ♀ got excited, at 8:00 a.m. the SE ♂ carried a piece of dried cat-tail leaf to the nest from K7, the ♀ got off, the ♂ got on. No ceremony involved. She moved on out of the nest area. 8:03, a bird at K7 is ~~flapping~~ flapping his feet. 8:05 SE ♀ moved to J7 to the left at J8. She paused for a moment, then dropped into the water, about then the M ♂ slipped out of K7 and started to move along the S side of the island. The SE ♀ spotted him and immediately attacked him, chasing him (splattering) to H14. She then returned to the J7 area, ignoring the M ♀ "peeping" all the while at K7. Now 8:09 M ♀ is foraging out along the S side of the island, unmolested. She moved on out and now 8:11 is moving into the willows at E13. Her mate is at H17. As the train comes up the track and stops, the SE ♀ at L6 cackles. 8:13 - M ♀ at E13 was attacked by a SW bird and chased to E13, the SW bird returned to it's wing at E11, then to SW ♂ drove M ♀ finally to G17 before turning back. 8:18 M ♀ crossed back and is feeding at L8, while M ♂ "puhk-uhks" at F18. W/Bl and 6 an Sc moved from N12 a chain to G23, where they are now feeding. They started across at 8:12 - now

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Fulica americana

May 20 Lake Temescal, 420 ft, Alameda Co., Calif.-
it is 8:20 as they feed at G23 and E♀ forages at N12. The W territory apparently no longer exists. 8:25 as I feed the ♀ Mallard w/10 yng. the SE♀ comes across, "swans" causing the Ducks to move S, the ♀ Duck, hisses and gets her brood back N. A pair of Mallards by the nest ~~have~~ has the SE♂ coughing. The SE♀ being unsuccessful with the hen, attacks a drake lurking in the willows, but he moves only a few feet before settling down again. 8:36 - SE♀ was right in by the nest on the ramp, but no change occurred. 8:49 a.m. SE♀ attacked a ♂ Mallard at 24, he didn't give in but struck back at her, she churned and drummed and then really assailed him. He flew a few feet and settled back down. Mallards thus far this year have shown no respect for the SE territory, and when attacked move only far enough to avoid the immediate contact. The Coots have not pressed any attacks, chasing or threatening for only a few feet, never following up an initial onslaught. This condition may change as soon as they have young. I believe the SW pair now are pretty effectively keeping their area clear of Mallards at least. 8:57 - ♀ went directly to the nest from 26.1 and as she approached the ♂ came off. The whole matter

V. GULLION
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May 20 Lake Temescal, 420 ft., Alameda Co., Calif.

was conducted silently. 9:00 a.m. the SE ♂ caught both the M ♀ + ♂ at K7 and he attacked, driving both to K10. The M ♀ tried to brace for him, but he responded by grabbing M ♂, holding him under water for about 15 seconds and viciously pecking him. M ♀ tried to come to the aid of her mate, but SE ♂ released his grip on M ♂, and despite her cackling, attacked her, getting in at least two vicious jabs, after which she quit cackling and dived to escape. He came back thru the channel, M ♂ escaped under water to J13 and M ♀ went out N of the island. 9:17 a.m. SE ♂ attacked and quickly routed a ♂ Mallard at L4. The two M birds, having some difficulties with the SE birds, are regaining interest in the old M area. SE ♂ is still somewhat tolerant of the M ♀, 9:25 - he allowed her to approach to within about 20 feet of him in the channel without showing any antagonism. 9:41 SE ♀ came off the nest while SE ♂ was feeding at L6.9, she came towards him he turned and met her, and the moved off, in the usual chase. to L4, where they fed together a moment, then the ♂ went to the nest, being settled by 9:43 a.m. 9:55 a.m. SE ♀ took a piece of cat-tail from K7 to the nest, SE ♂ took it put it on

GULLION
1950

Fulica americana

446

May 20 Lake Temescal, 420 ft., Alameda Co., Calif. -
~~the nest but did not seem to try to~~
leave it in. 10:43 SE ♀ on J6.5.
She stayed on ramp as I approached.
If I had my hands free I could have
taken her. The nest at I 6.1 is not
vastly reconditioned as a brood nest,
but I think it probably is being
used as such. The eggs at J6.5 are
cool as I'm leaving here. The structure
at K 7.8 has completely sunk so it
must no longer be in use, the deal
at K 7.4 is still intact, but disintegrating
rapidly, the nest(?) structure at K 7.17
is still developing, but if it is
neglected long it will surely vanish.
The egg nest at G 22 is falling apart,
in fact it looks as if they may be
carrying it away piece by piece.
The brood nest(?) at G 23.8 is in
use and better formed than when last
seen. The platform at P 16.2 is
completely gone, having sunk. A new?
structure, composed entirely of coarse
brown cat-tail stems with a few
green leaves pulled down above, is
on the edge of the inlet at P 16.17.
10 days territorial activities
looks as if the old territorial
lines of last sum mer are nearly
redrawn, with apparently the
same birds occupying the same
grounds. The 4 pair may be
able to hang onto some area and
get bred. They may even manage

GULLION
1950

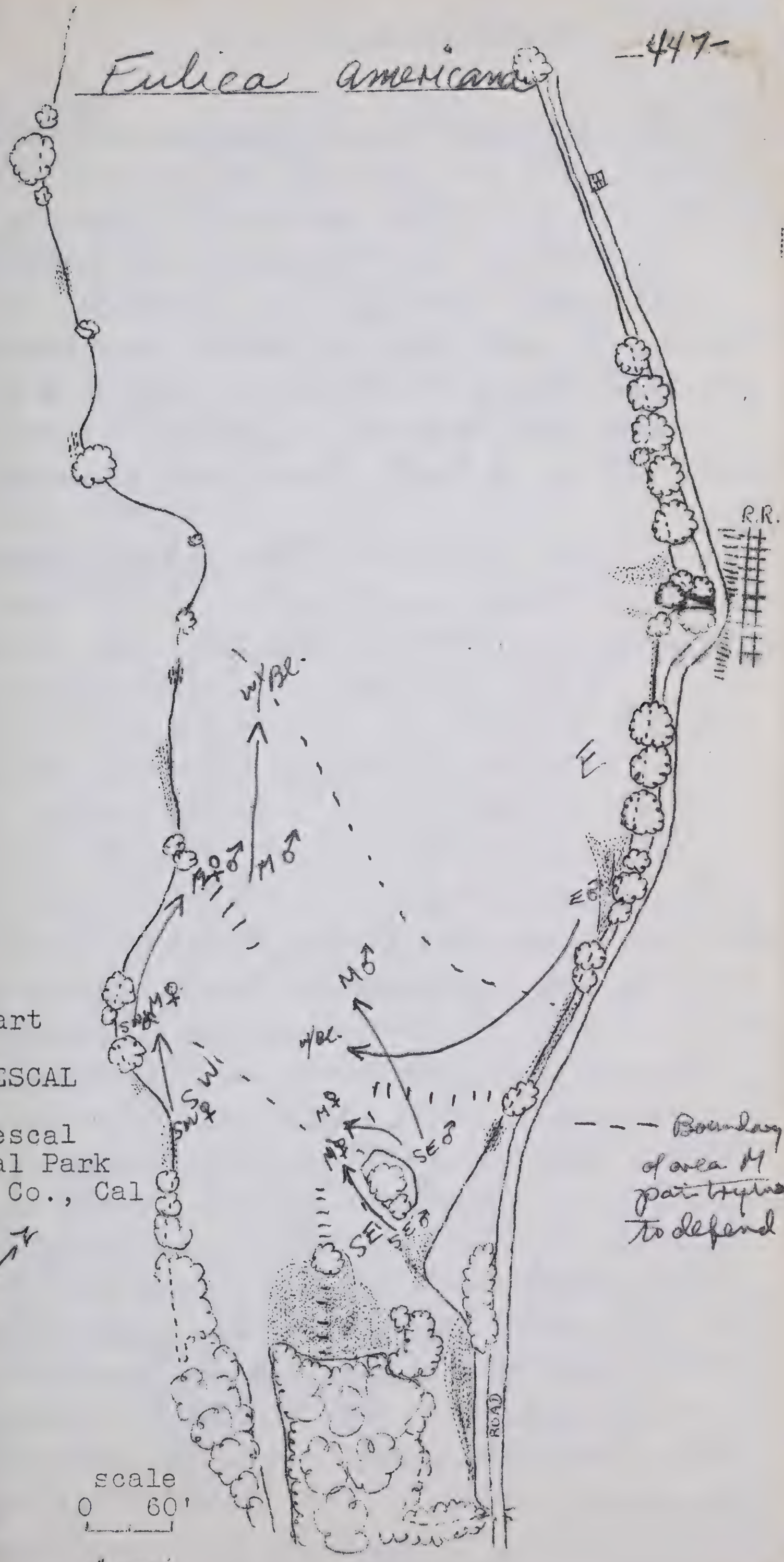
May 20

-447-

Fulica americana

south part
of
LAKE TEMESCAL

Temescal
Regional Park
Alameda Co., Cal



--- Boundary of area M patrolled to defend.

iris
cat-tail

scale
0 60'

1" = 120'

Fulica americana · 448 -

May 20 Lake Temescal, 400 ft., Alameda Co., Calif. — to keep out of the way of SE birds enough to bring off a brood at K7, but I'll be surprized if they do.

Note: — Bissell, in Zoo 145 class this morning said he had seen 2 parents and 3 yng coots on Jewell Lake on May 14 (Sunday). He said they were towards the S end, that is in the manner DE 10 & 11

May 22 same locality - At 11:51 a.m. SE ♀ is on nest J6.5. Egg D in nest J6.5 is the only one pipped, but all are satisfactorily warm. Sizes A 36.2 × 52.1

B	35.6 × 52.9	C	35.7 × 50.6
D	34.7 × 49.7 - pipped	E	36.1 × 52.1
F	35.4 × 52.0	G	34.8 × 53.7
H	34.9 × 50.5	I	34.2 × 50.9
J	33.5 × 51.8		

- all in millimeters.

As I waded out to the nest and both parents were displaying, ♀ at K9.1 cackled encouragement. The SE ♀ was foremost in nest defense, as she usually is. Egg D is very recently pipped since none of the shell is gone, but it is broken into about 5 pieces. The cat-tails at K7.16 and L7.21 have been badly broken down since May 20 a.m. I don't know whether or not that is going to affect ♀'s nesting, since it leaves the nest very exposed from above. Nest K7.17 seems somewhat enlarged so perhaps it is still building. ♀ seems to be tolerated by SE ♂

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May 22 Lake Temescal, 420 ft., Alameda Co., Calif. — Today the cat-tail smashing was done after 7:15 p.m. last night according to the caretaker. Caught two yng ♀ Wood at P23. One was R1, the other unclipped, so I clipped it L3. It might have been L2, the one which I unsuccessfully tried to pinch off on May 10, or more likely was from egg #1 which I failed to make previously. After I got thru wading, ♂ took two yng south to P17. May 20, Saturday, I was able to find only one ♀ yng and couldn't catch it. The structure at Q23.8 is much improved, with a lining of narrow, dead cat-tail leaves. Looks egg-nest like. The structure at P16.17 is also much more developed. It is about 6 inches high with a lot of new dead cat-tail leaves and stems, some green leaves and even some Potamogeton. Both parents were very concerned while I milled around that nest.

— Jewel Lake, 510 ft., Contra Costa Co., Calif. — Arrived here at 1:40 p.m. — No ~~Coots~~ visible or audible. 2 p.m., still no coots so I decided to go wading. Found a very large nest with a ramp facing N at N26.18. It is about twice the size of the usual nest. It sits about 8 inches out of the water. No birds around showing interest in it. Put a green cat-tail ~~coot~~ in it.

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May 22 Jewel Lake, 510 ft., Contra Costa Co., Calif.- The nest at M25.19 is sinking, has about ½ inch to go to be completely under the water. Probably in another week or so it will have settled completely. 2:15 still no coots. After looping clear around the W side of the lake, finding a Mallard nest with 4 warm eggs (marked) at I6.22 (the hen was sneaking off when I was examining the nest) & finally saw 1 adult w/ 3 yng swimming along the edge of the cat-tails from G10 to H17 before they disappeared. One yng seemed to be pretty light on the breast, couldn't see too well but it may be getting the white breast.

May 23 Lake Temescal, 420 ft., Alameda Co., Calif.- At arrival at 5:25 p.m. no birds on nest J6.5, the ♀ was feeding at J7 on the edge of the willows, seemed nervous and came over towards me when I appeared. As I approached the nest, the SE ♀ came out to meet me. Found the eggs all warm and D pretty well pipped. Nest I 6.1 is very evidently in use as a brood nest. Some coarse material has been added to it and it is well and much used. The carcass of a yng is at the base of the ramp. It is almost completely disintegrated, all the down gone and mostly a mass of jelly. Both SW parents in the cat-tails "pooking" and "puhking" but no close defense. Didn't hear any yng.

May 23 Lake Temescal, 420 ft., Alameda Co., Calif. — When these birds "swan" their primaries are in the water, thus. From this position they can easily churn, and do.

Some material has been added to the ramp and nest. Much of it is willow leaves but also some cat-tail stuff. Both parents in close, concerned. Yng in egg D "inhewring".

May 24 same locality 4:55 p.m. SE ♀ on nest J6.5. SE ♂ soon joined her after I waded out to the nest. M ♀ came out of K7, and a sc. bird is lurking at J9. #D has hatched, as I was felling the eggs in the nest the ♀ got on the nest and peched me, so I laid down my book and grabbed her. Banded 496-71656, tagged B-O/G, measured, examined and released. Sure has sharp claws. Under wing coverts mottled, legs are surely lemon-yellow, shield swollen much like the 11 yr. old bird from Lake Merritt. Shes a fighter. The ♂ went on the nest while I was handling the ♀. The yng was on the nest so it was clipped L1. The ♀ was close by but didn't get too close. The structure at K7.17 looks more like a display platform than a nest, it has feces on it. Put a green cat-tail

May 24 Lake Temescal, 420 ft., Alameda Co., Calif. — loop on it to see if it is being added to. No sign of K7.8 and K7.4 seems to be disintegrating. When I waded back to shore from the K7 area, the E pair at P15 saw me and started setting up quite a fuss. 5:33 pm, as I leave, the SE ♂ is on the nest at J6.5. Measured eggs #A, B, C & E which were not done earlier (see page 448).

May 26 Univ. Calif Campus, Alameda Co., Calif. — G/G/Bl — legs yellowish, shield seems to be flattening out, with reddish portion becoming scaly; no wing molt, overlap tag seems to be on securely, feet with ~~palm~~ sole swelling, some brown on heel. Bird T96, yellow leg band, legs becoming yellowish tho still green, heel yellow green, shield S5, no wing molt, sole of foot swollen. P/LG — legs yellow-green, shield S, heel brownish, pin silvered secure no wing molt, swollen sole. W/B — shield knob like, quite a bare spot on nape of neck above tags, legs green-yellow, heel with a touch of brown, no wing molt, swollen sole. O/Br — legs yellow-green, heel brownish, shield S5 but reddish area has not regrown yet, seems to be rubbed off anew every time this bird is trapped. No wing molt. Y/G — shield S, knob like, bill at base of shield badly winkled. None of these birds have the really ivory bill of birds in the field legs quite yellowish, heel brown

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see photographs

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May 26 Univ. Calif. Campus, Alameda Co., Calif.
no wing molt, pin still secure, a little swelling to sole. W/R - shield S, not much enlarged from May 17, legs yellow green, heel brown, tag nearly out, bad swelling to sole, no molt. VOG - legs very yellow, shield much regressed, not more than SS, flatter than on May 10 (see p. 455), shield class about 12, swollen soles, no wing molt. T97, legs green but scaling, shield very little more than F, no wing molt, soles swollen. Y-X^R - little if any shield recession from May 17, legs YG, heel Br, no wing molt, soles swollen. P/O - pin well embedded, legs YG, shield swollen, knob-like, (as it was on the SE ♀ at Lake Temescal the other day), no wing molt, seems to be fresh growth on shield, soles swollen badly, heel slightly Br. Some bird lost a red band in the cage.

Lake Temescal, 420 ft., Alameda Co., Calif.
At 9:46 a.m. SE ♂ on nest J6.5, ♀ was alone at L5, but she moved into the willows at K6 to "punk-unk" at me when I arrived at L6. 9:49 M ♂ patrolling at LM11 as the E ♂ "pukks" and E ♀ "poonks" at O13, as I appear the E ♀ takes 3 yng N while the ♂ remains at N13 patrolling against me, both birds calling, pukks & "poonks. When the ♀ got the brood to safety at P15 the ♂ left his post and joined them.

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May 26 Lake Temescal, 420 ft, Alameda Co, Calif. —
At K7, ♀ swam out of cat-tails with wings arched as I approached, when she was at K8.9 the ♂E was at K7.3, patrolling (against whom?). There was a shift of incubating birds about 9:50 am because at 9:56 the ♂E is on the nest. At K7 the ♂E chased the ♀ around in a few circles, she cackling and bracing. 9 eggs in nest J6.5, none pipped, can't figure what wrong here. Shy today, Male churred in close a couple of times, but no persistent defense. Nest I6.1 is still being used and much building as a brood nest. Egg #8 was found floating in the water just off the end of the ramp. The dead young on the ramp is pretty nearly covered by cat-tail stuff. Opening the shell of this egg I found the young fully developed. Apparently after about 7 or 8 eggs are hatched the stimulus to care for the young overcomes the stimulus to incubate. So far no more than 8 eggs have been hatched in any nest, regardless of clutch size, but when less than 8 eggs are in the nest the hatch is generally 100%.
The structure at K7.17 is built up from May 24, and apparently in use as a display platform not a nest. The other two structures seem to be deteriorating. E-L1 caught at P16. shield 6 mm, TMT 62 mm, T-28 ...

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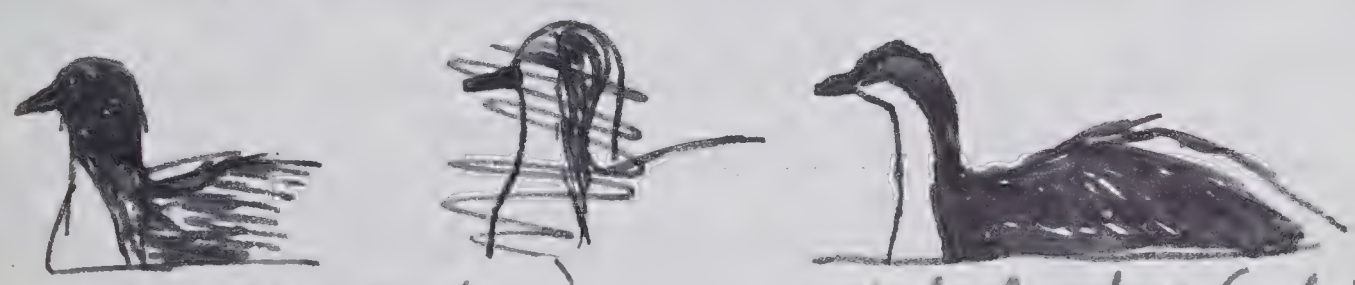
May 26 Lake Temescal, 420 ft., Alameda Co., Calif. - M toe - 34 mm. L1 toe reclipped. This yng dived once to escape, swimming several feet under water before emerging. The nest at P16.17 is much developed, mostly with stems of dead cat-tails, but some green leaves in it, put a green loop in it for a check. Q22 nest is no longer in repair and is sinking, only a little but opposite the ramp still is dry and above water, and that is only for a few days probably. The structure at Q23.8 is in good repair and probably is being used nightly. A Song Sparrow nest with a couple of young is close by. I'll put a green-leaf loop in this nest. The adults show no concern for this area now, not moving north from P16 as I worked out to Q23 & 22. Not even a "puhk".
R1 of E brood caught at P16 - TMT 61 mm shield - 6.5 mm, mid-toe 34 mm, Tarsus 26 mm. Body plumes fading on this bird as on the yng L1, club feathers still present on head and abundant, peeling at me constantly.

Jewel Lake 510 ft., Contra Costa Co., Calif. - At 12:10 p.m. 2 wk-br young were seen cutting into the cat-tails at L20. 12:13 p.m. one bird cutting across from near the spillway towards K26 was met by another bird coming out from M25, and they moved S along the E side of the island, billing etc.

May 26 Jewel Lake, 510 ft., Contra Costa Co., Calif.-
12:24 p.m. a wh-br or rather wh-fr. yng came out from M25 and worked along to L23 where it went into the cat-tails. It was alone and foraging. 12:33 pm. both adults are at J20 K21 feeding themselves and one wh-br dark headed yng is feeding with them but not by them. 12:35 p.m. one adult feeding E of island with four yng feeding themselves nearby. ~~The~~ the adult was feeding one of the yng occasionally, the smallest with the least white on it. (Just now a Calif. Jay came out of the cat-tails closely followed by Redwings).



wh breasted (wh-br) white-fronted (wh-fr.)

Finally found the Mallard nest at E3.16 which Glen Flittner said contained 4 cold egg on April 21 (deserted). It had 1 egg in it now. Flushed the ♀ of the nest at I6. Potamogeton has reached the lake surface in several places, ♂ cat-tails are beginning to bloom, shedding pollen, Potamogeton is blooming in NW Cove. Some terrific algae blooms and plankton blooms.
Univ. Calif. Campus, Alameda Co., Calif.
Placed a lot of lettuce and some

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May 26 Univ. Calif. Campus, Alameda Co., Calif.- celery leaves in the pen today. Put about an equal amount of lettuce leaves on a wire frame in the water and on the adjacent ground. They have been working on the Myrophyllum in the pond, on the cat-tails and on some gladiolus like plant. They all seem amiable, in fact Y/G and G-/G/Bl were nibbling each other for awhile in the corner. It ended when the latter started pulling on the tags of the former. Now after 25 minutes they found the lettuce, worked on it some, not interested so now they are wandering around elsewhere. They didn't get too interested in the lettuce in the water, apparently they were afraid of the new platform deal, but they were feeding on the lettuce on land

May 27 Lake Temescal, 420 ft., Alameda Co., Calif.- 9:15 a.m. SE♀ feeding alone at L2. The structure that was at L5. has been abandoned and is by now completely under water and nearly disintegrated. No evidence of fresh material. Both parents near J6,5, churning, especially the ♂, and growling. no more eggs pipped - I wonder whats wrong here - no sign of the 1 yng that hatched, it must have died by now. M♀ in usual area. M♂ lurking just N of rock, from where he can flee hurriedly. The SW pair seem to be keeping the SW area clear.

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May 27 Lake Temescal 420 ft., Alameda Co., Calif. — Found what must be the alternate brood nest of the SW pair at I 6.19. It is of looser a coarser construction than the egg nest, not neatly put together, no real ramp, much larger than the egg nest, in an opening thru the cat tails ~~she~~ made when I was searching for their nest earlier this spring. Watched the SW ♀ with 3 yng in S inlet. She is feeding 1 yng, the youngest. The other two were wandering around close to cover by themselves, finally over to the ♂. The yng being fed was showing the usual begging display, though not as well developed as it will be later. It waves its orange plumed wings as it begs. The body plumes seem to be about gone on the two larger yng but are still present, tho somewhat faded, on the yngr. 9:58 a.m. E pair feeding w/ 3 yng at O 14. The yng seem to be feeding mostly with the ♀. It seems probable that there are no more than 3 yng in the E brood, but I have no idea how many are in the SW brood. There are at least 3. The W area is defunct and I have even lost track of the birds belonging in it. There are 5 pairs of birds here at the S end, the E pair SE pair, M pair, SW pair and W/Bl-tan Sc bird that usually are at about IJ 12 & 13. Checking further N, at E 37 or thereabouts were 3 Coots, at least 2 of which are Sc.

May 27 Lake Temescal, 420 ft., Alameda Co., Calif. - the 3rd is not tagged but I am not sure whether it is SC or not. As several yng fishermen worked N along the bank these three birds moved out to the middle of the lake and started S, 2 more or less together going towards H24, the other alone over at M26. As I had observed earlier these birds do not bob their heads in unison with their feet while swimming, it is a matter of the head being held steady and the body oscillating under it. In foraging the head is bobbed, but again not necessarily in unison with the feet. The head bobbing maintains a rather constant pace, regardless of how fast or slow the feet moves. Occasionally when there is a great deal of floating food, as bread or cracker crumbs etc, they will accelerate the rate of head bobbing, but again this is not correlated with an increased stroking of the feet. I know of ~~six~~ five birds definitely put on the lake, that is scarred birds, the UNM from the N end was probably W/Bl, also placed here, and O which I haven't seen for several days would make seven, so no non-territorial birds are present that have usuable wings. All the non-territorial birds on the lake are here because they can't leave, they have one wing clipped. Probably the N area

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May 27 Lake Temescal, 420 ft., Alameda Co., Calif. — broke down when that ♀ gave up trying to find a suitable nest area and so left the lake. The UNM is banded, hence it must have been W/BL. W-O/B is still distinguishable by the plastered down head feathers tho the new style tags are gone, but who it is with him I am not sure.

May 29 Univ. Calif. Campus, Alameda Co., Calif. Lettuce leaves on shore and in the water seem to have been eaten with about equal relish. Both were cleaned up this morning so I don't know which vanished first. The set-up for the lettuce in the water is not as entirely favorable as it might, and probably should be.

— Lake Temescal, 420 ft., Alameda Co., Calif. SE♀ on the nest at J6.5 at 6:05 p.m. SE♂ was with ♀ in the channel, he splattered to her aid when she came off the nest on my approach. Egg #4 in nest J6.5 is pipped, just 2 cracks. Several of the eggs seem rather cool, don't know what's going on here. The nearly Ruddy nest is still under incubation. Both I6.1 & I6.19 are in good repair. I6.19 in particular has a lot of new stuff in it, including at least 3 sticks of wood. Found a Mallard ? nest w/4 eggs at about J6.22. Marked the egg. The structure at K7.17 may yet

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May 29 Lake Temescal, 420 ft., Alameda Co., Calif. — develop into an egg nest.

note: — The insect taken off one of the birds (VOG p. 408) several days ago, May 10, was identified by Dr. Usinger as a member of the genus Psallus, a genus of the Hemipteran family Miridae (see Essig, College Entomology, 1942, p. 293-94)

May 31 Univ. Calif. Campus, Alameda Co., Calif. — Noted this morning that all the lettuce leaves etc placed on the water rack were gone whereas those on shore still remained, that is, a few of them still remained. A tomatoe placed in there had been completely cleaned up except for a few pieces of skin.

— Lake Temescal, 420 ft. Alameda Co., Calif. — O still alive, seen at L1 as I approached the S end at 12:52 p.m., 12:54 p.m. SE ♂ on nest J6.5, he came off and silently vanished into the cattails as soon as I made my appearance. Now the ♀ is "pronking" from the willows at K6. One yng is on the nest, looks dry. This yng got out of the nest and away before I got it, but later came into the open and it is now marked R1. TMT 44 mm mid toe - 26 mm TMT - 18.6 mm, shield - 6. mm. Both M ♂ and ♀ came out of K7 as I waded to nest J6.5. But the ♂ moved off pretty fast. He has a deeply incised shield, much more than SE ♂.

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May 31 - Lake Temescal, 420 ft., Alameda Co., Calif. -
♂ is missing. thus the hatched yng. I is pipped, several eggs are cool, none as hot as they should be. Pipped egg #B red to see what the reaction will be. This nest is renewed, in fact it almost looks like a new nest to day. New ~~ramp~~ ramp, and built up with much new staff all around. Both brood nests of the SW pair are in good shape. ♂ was out of the water about 15 minutes before the SE♀ got back on the nest. He came in over the backside, first time I've seen that done, carefully preened himself, adjusted the eggs, perhaps turning them, waddled his legs to each side of the nest and then settled down. He didn't appear to notice that the red egg was even present. Also noted that the SW pair are pretty effectively keeping the mallards out of their area, and even now a yng duck is busily complaining. ~~while~~ ~~the~~ the ♀♀ is "punting on her deal at 17.17. The brood nest that was built up for the first SE brood then abandoned is redeveloped in the same location only facing the opposite direction. The nearby platform does not seem to be altered. The platform at 17.25 is not longer recognizable as such. The ♀♀ swimmed and

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May 31 Lake Temescal, 420 ft., Alameda Co., Calif. - I waded around the nest area, then I waded out to the island, causing ♂ who was remaining under the weeping willow all the time, to move out to J9, where he was attacked by the SW ♂ and chased to K10. The E pair have 3 yng with faded plumes at P16, the ♂ is with them while the ♀ patrols against me at N13. At 1:53 p.m. as I prepare to leave I find the nest at J6.5 is unoccupied. These birds are getting pretty fed up with incubating apparently. No ♂ stuck his head out of the willows, saw me hidden by the cat-tails, standing on the road, he gave a couple of "pukks" and retired. - Should add the egg #1 in nest J6.5 is pipped thru, just a single unit of shell missing the rest broken.

June 1 Univ. Calif. Campus, Alameda Co., Calif. - What may be the start of another nest has developed in the cat-tails during the past 24 hours. These birds are cleaning up celery leaves etc when put in the water that they failed to touch while it was on the ground.

June 2 Lake Temescal, 420 ft., Alameda Co., Calif. - 9:20 a.m. No bird on nest but eggs warm. Red egg still in nest and showing no sign of not being fully accepted. Egg #1 missing and presumably hatched. 2 not pipped.

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une 2 Lake Temescal, 420 ft., Alameda Co., Calif. — The M pair seem to be fairly well entrenched at K 7 and in the channel now. The M♂ is there regularly and the M♂ still loiters nearby in the channel. Last hatched SE yng caught & clipped L 2. Shield 5.4 mm, TMT 45.7 mm, mid Toe 26.3 mm MT 20.5 mm. Both SW brood nests in use, also SE brood nest which was not in use the last time I checked it (May 31).

une 3 Same locality — SE ♀ on nest J 6.5 at 10 a.m. W/Bl at N 13 moved out to the neutral zone (J 13 north to J-L 21 etc) as the E pair moved S along the E side of the lake with 3 yng. The E ♀ was at O 22 with the yng, the E ♂ at P 15 alone. M♂ is in area K-M / 10-11 moving back and forth, while M♀ is at K 7 working in the cat-tails.

Note:— Yesterday I noticed that the Mallard with the nest in J 6 seemed to be having a great deal of trouble with the Coots of that area. I shall be surprised if ~~the~~ they bring off a brood. 10:40 a.m. M♂ is chasing W/Bl from J 13 N to J 17. The marked W♂ was just in paired display with W/Bl at H 14, then (10:20 a.m.) he wandered S to F 13, where he was attacked by a splattering SW♂ and he splattered to G 15 before diving. SW♂ going on to H 16 and

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June 3 Lake Temescal, 420 ft., Alameda Co., Calif.—
then charging against M♂ at J16 and w/Bl at I18. W♂ emerged at G17 and crept off N. 10:25 a.m. SE♂ drove M♀ out of K8, to L9.20 before he stopped. She brased repeatedly but he paid no attention, pulling several feathers out enroute. He did not molest M♂ at K10, and as soon as he retired the M♀ returned to preen at K8.13 and the M♂ fed ~~at~~ just N of the island, doing a great deal of "pukking". 10:39, SE♂ splattered from K8 after M♂ who splattered from L10 driving him to L15 where M♂ dived, and SE♂ turned S. The SE♂ flew right on top of the M♂ for about 50 feet just before the latter dived. As SE♂ returned to the channel, he wandered around amidst the ♀ Mallard w/ her brood of ten, showing no antagonism, before going back into his area. The M♀ at her preening place was unmolested. 11:00 a.m. M♀ attacked and chased by SE♂, without much effect. Then the SE♀ joined her mate and a semi-paired display followed. But the M♀ still did not get routed from her area. The M♂ remained just north of the island all the while, showing no inclination to attract attention from SE birds. 11:06 - the M♂ moved N to J16 against 3 birds in the center of the lake. A moment before what I take to be the W♂ was in

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June 3 Lake Temescal, 420 ft., Alameda Co., Calif. — a huddle with another bird at G16. Just a little earlier a SW bird was giving the "cow-ah" note. Couldn't determine the reason. A short-time later someone was breaking limbs in the trees near the S inlet, which may have had something to do with it. 11:12 a.m. SE♀ on nest J6.5. A moment later SE♂ saw M♂ just SW of the island and so attacked driving him to K13. 11:50 a.m. photographed the M area and channel in color & BW. Nest J6.5 with 7 eggs in it, none pipped, red egg in middle of clutch, all eggs warm. Photographed in BW & color, both brood nests of the SW pair I6.1 & 18. The J6 Mallard nest, and the Ruddy Duck nest with the two newly hatched yng. Also the P16.17 nest of the E pair. While I was out both E birds were further N, fussing about something, they didn't even dispute my going to P16.

— Univ. Calif. Campus, Alameda Co., Calif. — Y-~~Y/R~~ still no decrease in shield size. No molt, good YG legs. P/LG - shield may be receding, it shre is scaly and SS, about a 1SS, legs YG, no molt. T97 - shield 8SS, legs with a yellowish cast to the green, no molt. O/Bor - shield SS, still no red formed, legs YG, no molt. T96 - shield flat, class about 7, legs YG. W-R - photographed - shield may be

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June 3 Univ. Calif. Campus, Alameda Co., Calif. - a little more swollen, can't tell for sure. Legs yellowish green. Shield class 10 S. Shield well defined around its lower ~~portion~~ edge. VG - photographed shield from dorsal side, is almost flat, ~~the~~ shape of class 5 but 10 × 7 mm in size. Legs yellow. Scaling. G-VG - frontal view photographed. Shield 9 S S, a recession. VG, legs X, shield 10 S S, irregular on lower edge. G-VG has a shield that is fairly well defined on the lower edge. WP - shield 10 S, legs YG. the safety ~~pin~~ pin was bent that was on her. Apparently something latched on to it so hard that it bent but didn't quite tear out. It was close enough that I removed it. Letting her go pin-less in the courtyard. Somehow she seems to have lost most of the feathers from the back of her head. Put equal amounts of carrot tops and lettuce leaves on the net rack and on the ground. Also a cantalope on the ground which seems highly popular. Also put a few turnip leaves on the net racks.

note: Photographed a plate from:
Frohwold, H.
1917. Illustrations of the game birds and waterfowl of South America. (London, John Welden and Co.), ~~38 plates~~ 11 pp., 38 color plates.
#24, Fulica gigantea, Gigantic Coot.

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June 4 Lake Merritt, s.l. Oakland, Alameda Co. Calif.
3 Coots at the lake today. Couldn't see them very well but two didn't seem to have much in the way of shields, one had yellow legs, the third I was not able to do anything but identify as to species. These three birds were against the wall by the fenced area. Later I saw one on the island that may have been a fourth one.

— Lake Temescal, 420 ft., Alameda Co., Calif.
SE ♂ at L2, ♂ at L1, SW ♀ at H3 at 7:05 a.m. SE ♂ attacked ♂, chasing him into the picnic area. ♂ splattered across the water and when he hit the shore he continued at the same pace across the ground, quickly vanishing among the bush. At 7:10 a.m. the ♀ incubating at J6.5. The red egg is being buried among the leaves of the newly revamped nest. It is even more built up than yesterday, has a deep cup, a completely renewed ramp and 8 eggs under incubation. Nest at I6.18 much in use. A ramp is forming on the N side of it. The Ruddy nest is empty, the Mallard nest under incubation finally. The nest at J6.1 is apparently not being used as heavily as the one at I6.19. The SW ♀ is in close fussing and I can hear 1 or 2 yng in the cat-tails nearby. The brood nest at J6.1, the

V. GULLION
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June 4 Lake Temescal, 42 ft.; Alameda Co., Calif. — in good repair, is not being used nearly as heavily as the nests of the SW pair, and I have not heard yng from this pair today. 7:35 a.m., SE birds still not on the nest 56.5. — at the same time the E pair tangled with the ♀ at M10. No fight that I know of, but chasing back and forth and paired display. The ♂ moved in quickly from K12 to help his mate in paired display. 7:53 a.m. watched the SE ♂ feeding on the carcass of a 6-8 inch fish floating at K7.1. He seems to be doing a pretty good job on it, tho he used only his bill to work on it. The brood of well grown Mallards were in the area at the same time, at first he tolerated them, but when they returned a couple of moments later he chased them a couple of times but did not effectively move them. 8:09 - seems to be a chase in the SE area involving the SE ♂ and some Mallards. Two yng of the E brood seen at O13. 8:15 - the SE ♂ feeding in the channel, a few feet from the M♀, spotted the M♂ just north of the island and splattered after him. The M♂ dived and when he came up at K12 the SE ♂ attacked again, this time diving with M♂. M♂ surfaced at L14 and stayed put, preening while SE♂ circled back S. The two E adults

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June 4 Lake Temescal, 420 ft., Alameda Co., Calif.—
feeding alone at N12, started out to participate in the scrap, the ♂ leading, but before becoming involved turned around and came back to shore where they "talked" about the whole affair. 8:35 a.m. something routed M♀ out of K7, probably SE♂.

~~Jewel Lake, 510 ft., Contra Costa Co., Calif.~~
The care-taker here at Temescal said he saw 5 yng in the last brood at one time this morning. 4 were all black, the 5th with some white fuzz on its body.

~~Jewel Lake, 510 ft., Contra Costa Co., Calif.~~
3 yng seen foraging individually and independently around the 5 pond. Both parents were in and out of the cat-tails but without reference to the location of their yng. Two have light bills with a black sub-terminal spot, the 3rd lacks the black spot but has a black halo just above its eyes. This latter one is busily diving and feeding by itself. Another yng joined the

single one. These two both are at about the same stage, both with black halos, white breasts (or really light gray), darkish

C. GULLION
1950

June 4 Jewel Lake, 510 ft. Contra Costa Co., Calif.
heads and necks. Body dark and plumeless. 9:33 a.m. one parent, ♂, came out of I 5 with an alternate charge and brace, his mate was at E 4 2 yng at H 4. I suspect platform activity in there. Will have to check that, and the Mallard nest. There are definitely four young and there may be 5. There is one completely lacking the halo, (the largest) one with a very indistinct halo, and two with distinct halos, one blacker than the other. This largest bird has its throat mostly dark the back of its neck quite so. Of the two adults on the lake, one has the square bottomed indefinite edged shield (♀) while the other has a pointed shield with a definite edge. (♂) Couldn't get a note from either or else which one is banded. One yng is white throated with a light band extending around the back of the head, it has a dark halo and a dark band up the back of the neck. The the young are all feeding pretty independently of their parents they respond quickly to any warning call of the parent. A couple of "punkies" by the ♂ and any that are out on open water take for cover while those on the edge of cover freeze in place.

I. GULLION
1950

Fulica americana 476

June 4 Jewel Lake, 510 ft., Contra Costa Co., Calif. - As I had suspected earlier, there are 5 yrg on the lake, 100% survival of hatched eggs. 3 were at EF 9, 1 at D6 when a 5th, smaller bird appeared momentarily at I4. A moment later some screeching high school girls came by scaring the lot into cover. Found a new platform at about P25.21. composed largely of green material, some feathers. Found a nest w/4 warm eggs at N25.24, within a foot if not on exactly the same location as the second nest last year. The eggs marked. The ♀ was in the cove, indicating some concern but not a whole lot. The brood nest at N26.18 is settling some but still in use with some green material recently having been added to it. The new egg nest has no ramp on it yet, is not really lined and generally looks unfinished.

— Univ. Calif. Campus, Alameda Co., Calif. - Put 10 gunny sacks of Potamogeton into the pond from Jewel Lake. These birds seem unfamiliar with the stuff, several of them tried a little bit, but they only nibbled. A couple went to lettuce after trying the pondweed. I notice that all the lettuce put out yesterday is gone and the carrot tops partially touched either in a

GULLION
750

June 4 Univ. Calif. Campus, Alameda Co., Calif.—
out of the water. The turnip tops
seem by-passed also. The catalpa
has been completely cleaned up.

June 5 Jewel Lake, 510 ft., Contra Costa Co., Calif.—
At least 3 yng seen about 9:15-9:35
this morning feeding around the
pool. There may be 3 adults on the
lake, I am not sure. 9:32 a ♀ is
feeding by the inlet at H4. Noticed
once that the feathers on the back
and rump of one yng are about the
color of an adult ♀. Red-wing
afterwards a sooty-brown. These
young seem to be feeding almost
entirely by themselves and their
activities are generally independent
of the adults. However, as noted
yesterday, they respond immediately to
the warning calls of their parents.
At 9:45 the ♀ was feeding the
2 youngest birds at F10, an
older bird was crossing to D11,
another was at F9 and a 5th
moved from G8 to H4. A few
minutes later I was able to get another
count of 5. 2 standing on sticks at
H11, preening, 1 with the ♂ at F9,
2 feeding near the ♀ at H5. The
two at H5 are like the bird on
page 474 as is one of the two from
H11. The other H11 bird is an
older bird — as shown on the next
page. The bird with the ♂ also was

Fulica americana

June 5 Jewel Lake, 510 ft., Contra Costa Co., Calif

of the older pattern. The ♂ moving around F 9 saw the ♀ at H5, and moved S towards her, in a charge, as he came up to her he started his coughing, she braced and moved away ahead of him, trying to avoid him. He finally got to her, she dived to escape, and he moved on into the cat-tails at I 5. Finally today ~~and~~ I finally recognized that the alarm note given by the ♂ is not a "puhk" as I had previously

pattern of the oldest yng - hatched April 26 or maybe a day or so earlier.

believed but rather is an explosive note, probably the "pulque" note referred to by Dawson in Birds of Calif. (p.). When given the head is jerked downward, probably to give added emphasis. In the usual "puhk" there is no movement of the head, nor is the noticeably open which again is the case with this alarm note. I have heard it many times before but had failed to recognize it as something apart and distinct. The nest at N 25.24 has 5 eggs in it, all cold. Their warmth yesterday ~~have~~ may have been the result of sun, and incubation has not really begun yet. Found turtles busily using the

. GULLION
950

Fulica americana

June 5 Jewel Lake, 510 ft., Contra Costa Co. Calif. brood nest at N 26.18. The old egg nest at M 25.19 is completely under water now. The old display platform at B 14.5 is still extant and has fresh feces on it, probably a preening or night roosting place

— Lake Temescal, 420 ft., Alameda Co. Calif. At 4 p.m. I watched the E ♂ trying to drive a ♂ Ruddy Duck out of the area P20. Every time he charged the Ruddy ducked under and stayed under so long that the Coot would lose interest and start to move away, then the duck would surface right where he dived from and the E ♂ would attack again only to have the duck dive. This was repeated 3 times before the E ♂ decided it was a bad job and left ~~to~~ going to Q21 to feed 1 black bodied Yng while the ♀ fed the other. About 4:06 p.m. the SE (♂?) chased an M bird to J14. The latter dived there, but not before the SE bird got a bill full of feathers. When the M bird surfaced, at about I16, it churned and then settled down to preen. Noticed one of the M birds (♂?) slinking out of the SE area with its body and neck depressed but its head up, in a charge except to the elevated head. At the same time ~~the~~ a SE bird was attacking the other M bird

GULLION
1950

Fulica Americana

June 5 Lake Temescal, 420 ft., Alameda Co., Calif. - at in the channel. Saw a dispute with paired display between a SW bird and what I suspect was the ♀, that was at J9, with the ♂ bird retreating to K8. Am sort of dubious about these reports of 5 yng in the E brood. There may be, but I sure haven't seen more than 3 at any time. They are still red billed but seem to be fairly free of body plumes. While the ♂ is caring for 3 yng at P29, the female has gone up by the boat dock to feed. 4.50 p.m. the ♀ come south to feed the yng and the ♂ meets her, going on. As he turned back and now they are moving N with the whole brood, at 4.52 working along at P32, very close to shore. These are 3 yng with them and no more. 4:57 p.m. they have the 3 yng by the pampas grass at N37, and there are people playing on the beach just around the corner. As a couple of people moved down the walk the parents started S with their brood, taking them well out on the lake to avoid the people. The ♀ kept two yng pretty close to her, but the one following the ♂ got left way behind in the rush.

to note - B/W and Color shots taken of the brood next at N26.18 and egg nest N25.24 at Jewel Lake. Also one from the bridge looking S.

GULLION

line 6 Jewel Lake 510 ft, Contra Costa Co., Calif. — Egg 6 in nest N 25. 24, egg warm, being incubated, but no sign of parent bird anywhere about. A large glob of feces in the nest and on a couple of eggs including the new one.

line 7 Stow Lake, Golden Gate Park, S.F. Co. Calif. — 1 coot on the lake today and that one has a bad wing, yellow legs, brown tibia and a large discolored area just below the shield. The shield is pointed below with a well defined border. This is probably a fairly old bird. It is also a female from its calls. A second seen a little further along the lake. This one also a yellow legged adult looks somewhat younger than the first one. It has an enlarged shield, pointed and with a definite edge below.

— Mallard Lake, Golden Gate Park, SF Co., Calif. No Coots on this lake tho the habitat looks good. A Mute Swan is nesting and there are many broods of Mallards and at least one Ruddy Duck brood.

— Metson Lake, Golden Gate Park, SF Co., Calif. — This lake is too small and lacks suitable emergent vegetation. It has no Coots but there are several ~~small~~ small Mallards present

— Lloyd Lake, Golden Gate Park, SF Co., Calif. — This lake might be large enough for Coots but it lacks emergent vegetation. Hence, none are present. A Snow Goose and several adult and yng Mallards are.

BULLION
9.50

June 7 Speckles Lake, Golden Gate Park, SF Co., Calif.—
3 Coots on this lake. It is an extremely atypical habitat. The shore of the lake paved all the way around so that nothing grows in the water. One bird had the square bottomed faded shield, the other two had pointed bottoms with sharp edges. These latter two were together on nest-ling, perhaps paired, surely not breeding.

North Chain Lake, Golden Gate Pk, SF Co., Calif.—
This lake looks suitable for about 2 pairs of Coots. The size is sufficient and there is an abundance of emergent vegetation in the form of Scirpus & Iris and also lots of low overhanging willows etc. There are several Mallard broods of all ages, plus a ♂ white-winged Scoter and a ♂ Wood Duck, both cripples.

Middle Chain Lake, Golden Gate Park. SF Co., Calif.
This lake like the others at this end of the park, stinks. It has three broods of coots on it. One bird was seen that had its full immature plumage. That is the ~~[illegible]~~ gray stage with white under-tail coverts, a gray bill etc. There is another brood of at least four, feeding with a ♀ that have white fronts but still retain the red bills. The black halo is just beginning to appear on two of them. A third brood of at least two, are perhaps a week old, they still have some colored baby plumes

GULLION
1950

Fulica Americana

483

June 7 Middle Chain Lake, Golden Gate Park, SF Co., Calif. -
but are fairly good sized. There are also several broods of Mallards on the lake and at least 3 Pied billed Grebes which may mean a brood. It's an old one if it is - it is. Watched a Coot trying to charge these Grebes. The adult dived when the pressure was high but the yng just sank in the water aways and went around in circles frustrating the Coot. Watched the brood of four being fed by both parents, also doing a little feeding on their own. They look something like this: -

one of these young still has a narrow streak of black just penetrating into the white on the breast. There seem to be two in the youngest brood, and there are at least two of the oldest brood, also at least 2 yng Pied-billed Grebes. One of the parents of this youngest brood sure is giving them a bad time, at least one of them. This lake has Juncus, Scirpus and Pampas grass as possible nesting cover. One nest, apparently the one this youngest brood belongs to, is in Juncus. One of the yng is standing on the stump there now. - 9:15 a.m. There must be about 3 pairs of Coots on this lake. They seem to be getting along fairly well, but no doubt there are definite territorial

Fulica americana

June 7 Middle Chain Lake, Golden Gate Park, SF Co., Calif. — areas. There must be at least 5 yng Grebes, and I would say 6-8 broods of Mallards, from one that looks as if it hatched this morning to others that are quite well feathered. There is a large turtle in this lake, it must be a Snapping Turtle cause surely Mud turtles never get that big. Its head is fully as large as my fist and its carapace is about 18 inches broad and at least 2 feet long. The shell didn't begin to cover the body.

— South Chain Lake, Golden Gate Pk, SF Co. Calif. No coots, perhaps too small, some suitable habitat.

— Laguna de la Merced, San Francisco Co., Calif. — Despite its large size and an abundant supply of tules, and some cat-tails around the shore, there are very few, or appear to be very few, on this lake. Two were seen along the Sarm. 11:55 a.m. Also saw one on a pool in Fleishhacker Zoo.

— Laguna Salada, San Mateo Co., Calif. — Quite a number of Coots were seen on this pond but a very severe headache on my part, and general illness, prevented further investigation. Had to call the whole trip off about 1:30 p.m. and return home. Worth a check back.

GULLION
950

June 8 Lake Temescal, 420 ft., Alameda Co., Calif.-
6 eggs in nest J6.5, the red one is completely buried, but neither parent are showing any concern for the nest. Three young in the SW brood, the oldest has two extensive white spots on its breast, with only a narrow black stripe up the middle. The other two are all black downed. Found what is left of the carcass of one yng on the S edge of the cat-tails at K5.11. It looks as if Coots, (or yng Ruddies?) are using the Ruddy nest at J6. for a roosting place. A new display platform is developing on a floating bed of J5.7. It is composed almost entirely of green cat-tail leaves. The J7.21 brood nest is well taken care of, and in use (by yng?). The I6.5 platform is defunct. Brood nest at I6.18 is well built up, in very good repair, a fine looking nest with a ramp developing on the N side. SW ♀ is in the cat-tails nearby pooping at me. The "poonk" note is not as general as I used to believe. It seems to be a note of anxiety, the "Prunk" is the more frequent note. Nest at I6.1 may still be in use, if so it is not in heavy use. It is not recieving the care given I6.18. The dead yng from the SE pair is L1. Finally saw one living young of SE brood. These birds are very

GULLION
150

ne 8

Fulica americana

Lake Temescal 420 ft., Alameda Co., Calif. - afraid of a new comer to the lake, a white Muscovy Duck. The structure at P16.2 is renewed and much built up, is composed almost entirely of coarse stems etc now. Both parents nearby, "poonking" and "puhting". Also one red billed, black bodied ugg w/ white & plumes on its head. The structure at P16.17 is also in good repair. Two ugg watched, one with white on beak fairly extensive, see below - while the other has just

two white spots wide laterally, the latter still has a fairly prominent bald pate, the other much less so. Both have white plumes on the heads and both have orange-red bills. A nest structure is well developed at P22. The first structure has completely vanished. The wood nest at P23.8 is well used and in good repair. Noticed the SW pair being especially antagonistic against ducks in the S inlet area, but the E pair were doing okay too. The Ruddy nesting at P6.2 seems to be having plenty of trouble with the SE coots. The 3rd ugg

Fulica americana 487

June 8 Lake Temescal, 420 ft, Alameda Co., Calif.
in the E brood has no white on it at all. Tried to and took a color photo of the brood out on the open water. It won't be too sharp. The past two days' wind storm knocked down quite a mess of cat-tails, most of the ♀ 22 & ♀ 23 ones are leaning way over.

— Jewel Lake, 510 ft., Contra Costa Co., Calif.
2:05 p.m. saw all five yng feeding at FG 11-12. One has a faint suggestion of a halo remaining. Two oldest have very little of the light front remaining. All are feeding quite apart from the parents. One parent is in the cat-tails at C12, or C11. The other supposedly is on the nest. But its not the case, the ♀ is at H15, the ♂ at G23, both feeding, I'll go down and check the nest real quick, see if a bird is on it. No, the nest has been raided, all the eggs are gone, but the nest seems to be built up some more from its earlier size. Still no ramp. I'll have to look for another nest elsewhere, should be well along today.

June 10 same locality — 11:42 a.m. — I've been here for about ½ hour and have seen my young. When I first arrived an adult was seen towards the N part of the pond, and just now the ♂ came out of C12 and crossed to H10, giving the "punk" note. Finally a yng approached,

GULLION
250

June 10 Jewel Lake, 510 ft., Contra Costa Co., Calif. - apparently the yngest - it still shows a suggestion of a halo, it has a pattern much like that on page 474, only with less white on the head & neck. 11:53 a.m. now the ♂ has moved to F10. ~~[illegible]~~. The ♂ got up on a stick and preened for a few moments and as he did so it was possible to see the ♀ band on his legs, on the left one. Another darker yng with white-tail coverts appeared. A couple of kids shot at one with an air-gun just as it dived. Apparently they didn't hurt if for a full count of 5 was made at 12:20 p.m. At least 3 have some white under-tail-coverts, including one yng with the remnants of a halo. There is also at least one without any white under tail coverts. Two with faint halos have a couple of white dabs laterally for the white coverts, but no tail, 2 others, darker birds (see below) have a tail.

I'll bet there is a nest with eggs in it, under incubation around. 12:43 p.m. a second bird appeared

GULLION
750

June 10 Jewel Lake, 5100 ft., Contra Costa Co., Calif.- Causing the ♂ to give a series of the low "punks" that are given in such occasions. They were moving down from the H17 area. A couple of these young have very dark bills One of the older yng has no light gray below the water line, its breast being the same color as its back, only the frontal area above the water being a light gray. 1:02 p.m. - both adults are out feeding on the S pond, one at G8, the other at H4. I have not seen these yng being fed by the parents for several days. The oldest of these yng is still larger than the immatures seen on Middle Chain Lake in Golden Gate Park on June 7. Also the yng feed and move quite independently of the adults, still they quickly heed warnings by the adults! Just now I dropped my pen, as I reached down to pick it up, the white pages of this notebook attracted the ♂'s attention he gave several low "punks" and the yng in the vicinity rather quickly responded. This low warning note of the male is remarkably similar to the low ♀ "punk" I am confused by it quite frequently, tho it doesn't really have the nasal quality of the ♀ when it is heard alone it seems to be. This is probably the only call in which there is overlap. 1:14 p.m. the ♂ chased the ♀ into the cat tails

GULLION
#50

Fulica Americana

490

June 10 Jewel Lake, 510 ft., Contra Costa Co., Calif.—
at I 4, giving his "Kuk-kuk" notes.
There just may have been some copulating
back in there! I haven't seen a platform
there, but after the proper interval the
♂ came out, then a few moments
later, again a proper interval, the ♀ came
out:— Both to feed in the S pool.
Platform at P25.21 pretty well defined.
Next N 25.24 looks as if it is still
in use for something; no loop in it
so I placed one, just to check. Plat-
form, or wood nest at N26.18 may be
in use, can't tell for sure. It is setting
this. 5:25 p.m. — the ♀ was at K 28,
on the edge of the cat-tails, the ♂ came
charging into her for about I 25, giving
the "Kuk-kuk" "kuk-kuk" deal
as he came, they vanished into the
cat-tails a moment, then he came
out first and she was close behind,
he chased her and she gave that
clanging sound, diving twice to
avoid his too close pursuit — finally
— they both stopped & preen at J 26.
I think their next nest will
be in the same general area as the others.
I'm not convinced that a predator got
the eggs, the fact the nest is still
in use, or seems to be and the fact it
was little if any damaged makes me
wonder if one of the Coots didn't roll
the eggs into the water. Incidently, I
found another egg from the P 25 nest, it
was floating nearby, with a little mud in it.

Fulica americana

June 12 Lake Temescal, 420 ft., Alameda Co. Calif. — 8:30a.m. The SE pair are feeding one black yng at I 8.25 - it has the bald pate etc. but has lost most of the body plumes but is retaining the head plumes. A moment before, the a SW bird was at F 10 w/ 1 yng, patrolling against a nearby ♀ Mallard w/ 3 new yng. A ♀ Ruddy with yng in the cat-tails nearby was not molested. Later 3 SW yng were seen feeding with and being fed by the adults. The M pair seem more firmly entrenched in the M area than ever. Both birds are swimming around in the channel almost as if they owned it, on the other hand the M ♂ seems to have a way of drifting to the N side of the island whenever the SW ♂ appears in the area. Just now the M ♀ was "punkering" from about K 8.21. One of the E brood has a crippled leg. Only platform in the K 7 area is at K 7.17. Nest J 6.5 finally connected to a brood nest. E 9:30 A, C, & J found floating in the water nearby. No real defense, the ♀ "punk-punked" at me giving a vigorous bob of the head. With the true "poonk" note, which is not too frequently given, there is little or no head bobbing. SE ♀ just went out to chase a ♂ Mallard from I 8 to I 10 "poonking" as she returned from that. Platform at J 5.7, is

GULLION
950

Fulica americana 492

me 12 Lake Temescal, 420 ft., Alameda Co., Calif. - near the end of a big hole somebody opened in the cat-tails over the week-end and doesn't look much used today. Brood nest at J 7.21 is in good shape and looks much used. These birds may also be using the old Ruddy Duck nest at J 6.16, at least there is a lot of fecal matter in it which looks like Coot feces. The I 6.1 nest is still in use. Both parents were "pooping" and "puhking" as I waded in their area. The nest at I 6.18 is much the heaviest used, and is very well built up and cared for. I am interested to see how well the well-woven nest of the Ruddy Duck without a ramp holds up despite evident heavy use. It is being entered and left from the same ~~the~~ position which helps in this matter, but with a Coot nest requires constant ~~constructive~~ work. This Ruddy nest has had nothing basically changed since it was built about May 9. 10 a.m. - A SW bird just routed a couple of birds from G 17 north. The wood nest at P 16.2 is really built up, the nest at P 16.17 is less well attended to. Both E birds voiced while I was in the P 16 area and then accompanied me to P 22 as I moved up there. Watched the E ♂ feeding vigorously on a partly peeled floating orange.

GULLION
950

June 12 Lake Temescal, 420 ft. Alameda Co., Calif. - The new platform at Q22 is not being further developed, at least not at the moment. The structure at Q23.8 seems to be in a good state of repair and may be in use. The H timbering is such that the formerly neutral area about J 13 seems abandoned and now the 4 flock birds are feeding at EF 25-26. The M area seems to extend to about H-J 17, or perhaps a little further. The 3 E broods seem to be very close to the same plumage stage. One has more club feathers around the bill than the others, but otherwise they are very much alike. They all have white breasts but more white fronts, bills are all orange red, the pate is covered with black down on each, all have a band of white (faded) wing feathers around the head below the pate area, but most of other plumes are gone. One seemed to be without club feathers, another with a few - this latter is the one with a crippled right foot. These eggs from nest J 6.5 five chicks.

J6.5 - '50

Egg C - vol. 28.5 cc - 35.8 × 50.4 mm
Egg A - vol. 33 cc - 36.0 × 51.0 mm.
Egg J - vol. 28.0 cc - 33.5 × 51.9 mm.

Nest C 12.13 - Jewel Lake, 1949
Egg 6 - hatched p.m. May 5, 1949.
vol. 26 cc - 34.1 × 49.5 mm.

next page.

Nest M25.19 - Jewel Lake, 1950 - N pair
Egg 4 - vol. 21.5 cc, 31.3 × 47.0 mm.
Nest I6.1 - Lake Temescal - 1950 - 510 pair
Egg 8 - vol. 27 cc -
Nest P25.7 - Jewel Lake, - 1950 - N pair
Egg 5 - vol. 23 cc - 32.1 × 47.3 mm.
Egg - vol. 22 cc - 31± × 45.4 mm.
Egg - vol. 24.5 cc - 31.8 × 48.4 mm.

June 13 Jewel Lake, 510 ft., Contra Costa Co. Calif.
3:13 p.m. - just watched this pair copulate. In this pair the ♀ has the squarish shield, the ♂ the pointed, just the reverse of Lake Temescal. The ♀ had been feeding at HI 4 since about 3 p.m. About 3:05 the ♂ came down to FG 12, joining the flock of immatures feeding there. After feeding with them for about 6 minutes he moved S, met the ♀ at H6. They fed close together for a moment, then the ♂ moved over to her, giving that cough, with his bill wide open and emitting a barely audible sound, she moved off, in a subdued brace, he close behind moving to some floating cat-tail stems at 68.10 (where the immatures are often seen standing out of the water preening etc), she arched from the squat position, give no call, he mounted and adjusted himself, without taking ahold of her with is bill, but

CULLION
Illinois
950

June 13 Jewel Lake 510 ft. Contra Costa Co. Calif.- holding on with his claws, and using his wings to balance, then he reared back, as with the ♂ E birds at Temescal, intromission proceeded, to the count of 100, 1002- and finished, he hopped off into the water while she stood up and preened. He moved off feeding, and a couple of minutes later he was feeding with the immatures at FG 12-13 and she at HI 4-5. The elapsed time was about 3 minutes between when he left the immatures, copulated and returned. The usual notes and displays were involved, that is, the "coughing" of the ♂, the chase with the ♀ bracing, the arch and the post-copulatory preening by the ♀, but there was no preliminary courtship play, no billing, nibbling and otherwise displaying, vocally or otherwise. One immature still has restricted under-tail coverts, but they are present. The others all have fairly well developed tail coverts. This bird with the poorly defined tail coverts has the lightest frontal surface, the 2 more are not a whole lot darker. The darkest has a medium gray frontal surface, no light gray and a very dark band down the nape of the neck. One

Fulica americana

June 13 Jewel Lake, 514 ft., Contra Costa Co., Calif.
other bird has a less extensive black band on the neck. All have dark bills, the oldest having the darkest bill. The youngest still has a suggestion of orange on its bill. The youngest is about as the diagram on page 488 - but also with a white pre-ocular spot and with a band of hoary plumes around the head just below the eyes & halo. Noticed that all but the oldest have the pre-ocular white spot. Only one of the birds seems to have the white hoary appearance below the halo, but 2 others have a neck that

is a little lighter gray than the halo, but it is a solid gray, not mottled with the lighter stuff. I have not seen any of these birds being fed by the parents. Tho they feed pretty much together most of the same every so often one goes way away from the others, foraging. They are doing most of their feeding by tipping for Potamogeton. Heard the ♂ giving a series of low "pukes" from

Fulica americana

me 13 Jewel Lake, 510 ft., Contra Costa Co., Calif. — about B14. No response from the ♀ who has been feeding at GHI 4-5 most of the afternoon. 4:30 p.m. — ♂ is out of the cat-tails feeding along with 4 of the 5 yng, he is moving S, the ♀ is moving N at H7, ♂ at F9 going towards her giving a "purk" or "kurk" note, she gave a "poonk" moved to the platform at G8.10 climbed on it and went into the squat arch, he came over, climbed onto the platform, mounted, but didn't get balanced and either fell off or was dumped, at least they didn't copulate, she got off the platform without preening and started to (4:33) swim off, he chased her, giving the "kurk-kurk-kurk" note and trying to grab her head, she dived to get away, he stopped to feed, and she preened when she surfaced, then moved to her usual post for feeding where she is at 4:38 p.m. 4:39 the ♂ was on the platform preening, but a moment before an immature was there also. Now he has moved out to F8 to feed on pondweed.

— Univ. Calif. Campus, Alameda Co., Calif. Noticed the other day that all the lettuce and carrot-tops in the water were gone, but that Potamogeton and Myriophyllum were still present, tho reduced. Also some wilted carrot-tops

Fulica americana

ne 13 Univ. Calif. Campus, Alameda Co., Calif. — remained on shore. Putting those into the water yesterday, they were much worked upon by today, tho not noticeably less wilted.

ne 14 Suisun Marshes Solano Co., Calif. — With Mr. Ralph Noble of the Suisun Refuge, Wessenberg and I spent the day looking for Coots in this area. We went to the Mallard Gun Club at the E end of the area first, then onto Grizzly Island, investigating the Channel Gun Club and an area just a little ways to the E. No Coots on the Mallard or Channel Clubs, at least none seen. Found one in a little area of open water just to the E of the latter. This bird did not flush until nearly stepped on. It had yellow green legs, was a ♂ with slightly but not greatly enlarged testes. Harry couldn't find any flukes in it. It was in good physical shape, bursa 28 mm, very slender & white. Its tail appeared to be in molt, at least it had some pin feathers for rectrices. The frontal shield was no more than SS, somewhat featheredged. No parasites were found in this bird #78. We moved from there to the Suisun Refuge on Joice Island. At the E end of this area one Coot was flushed but we didn't get close

June 14 ~~Solano~~ Suisun Marsh, Solano Co., Calif. —
to it. Moving then to the west end of the refuge, we flushed 4 Coots, all adults, from an area of Scirpus americanus. One of these was hit but not recovered. What was amazing in this whole area is the abundance of what I believe to be suitable habitat and a complete absence, or at least no evidence of breeding Coots. There are lots of broods of Mallards, Gadwalls and Cinnamon Teal, also a few Ruddies and Pintails, and one of ~~Mallards~~ Shovellers, but no Coots. Both species of cat-tails are present here (Typha angustifolia and latifolia), Scirpus americanus a Carex or 2 or 3, a triangular bulrush (Scirpus ~~Carex~~) and much Potamogeton. ~~The~~ cat-tails here are ahead of those in the bay area. The narrow-leaved have lost the staminate flowers and the pistillate flowers are well along while the broad-leaved species seems to be just ~~a~~ beyond finished with the staminate flowers, tho some pollen is still around. The only habitat difference that I can see is the difference between the brackish water here and the fresh water at Jewel Lake and Lake Merced. At Valley on the way home we saw a pond with typical

Fulica Americana 500

une 14 Solano Co., Calif.
Coot trails in the algae, so stopping we saw one adult and 3-1 week old yng.

une 18 Lake Temescal, 420 ft., Alameda Co., Calif.
Nest J 6.5 has deteriorated into a flat brooding platform, not nest like in any way. The Ruddy Duck nest at J 6.16 has been pretty badly smashed down and is no more the well formed structure it was earlier. The second Ruddy Nest has been destroyed or abandoned, at least 1 egg is in the water nearby, and the nest looks to be in use by Coots. Whether they had any thing to do with its demise I do dont known, but doubt. This pair is surely raising a rumpus as I work in the cat tails at this end. They have 1 yng, a black bodied individual with some colored plumes on its wings, orange bill and hoary head. Brood nest at J 7.21 is well built up, under good repair, and well used. Nest I 6.1 is in good repair, well built up and well used. Nest I 6.18 is ~~well built up~~ very large, about as large a Coot structure as I have seen. Its rim is 8 in above the water, it is 18 in across outside diameter and 8 in across the cup. Both P 16.2 and .17 in good shape tho the former is in the best condition, being well built up with a good cup.

N. GULLION
/950

Fulica Americana

501

nd No.:
6-71638

Reference:

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
PATUXENT RESEARCH REFUGE
LAUREL, MARYLAND

May 17, 1950

Mr. J. E. Myers
c/o Durkee Famous Foods
2900 - 5th Street
Berkeley, California

2-6-50

Reference is made to your letter of Telephone regarding bird wearing a band with the above number and which you eport was: Found injured, band not removed and bird released "It seemed to be okeh but could not fly."

n: February 5, 1950

t: Berkeley, Alameda County, California

nd: Also "There were two tags on a safety pin, pinned the skin at the back of the neck. They were orange colored gs with red stripes or wide red band on each side of each tag."

Our information on the banding of this bird is as follows:

pecies: American Coot age: Imm. sex: -

anded at: Lake Temescal, Alameda County, California

ate: February 3, 1950

y: Gordon W. Gullion

On behalf of this Service and the bander may we thank

6/14/50

Dear Sir:

The coot was found on the premises of Durkee Famous Foods - 7th & Heinz Ave - Berkeley by one of our employees, it was in a dazed condition apparently unable to fly.

J. E. Myers

GULLION
950

June 18 Lake Temescal, 420 ft., Alameda Co., Calif. – Both E birds came down belatedly to dispute my intrusion into their area. Flushed a Mallard hen out that just might be nesting thereabouts. The 3 E yng moving to 716 from further N, gave a "pzeep" "pzeep" note as they came in. That is one was a clear pzeep the other was a less clear note. The one with the crippled foot made no noise. Didn't examine @ 22-23 area closely ~~[illegible]~~ because of some kids nearby. The oldest E yng has the crippled leg. All three have good black halos, the oldest has a few faded wire-feathers, the next has still more faded wire feathers, while the youngest still has a few colored wire feathers. All three have the pre-ocular spot. All three also have the black pied area near the tips of their bills. Earlier, I noted that the 3 SW yng have bills that are just beginning to lose the brilliant reddish-orange color.

– Univ. Calif. Campus, Alameda Co. Calif. –

Egg volumes & sizes.

2nd Nest J6.5 – Lake Temescal, 1950.

Egg F – vol. 30.5 cc, 35.5 × 52.1 mm.

Egg G – vol. 31 cc, 34.8 × 53.8 mm.

Nest P25.7 – Jewel Lake, 1950

Egg? – vol. 24.8 cc, 31.8 × 48.4 mm.

(see page 493-494)

GULLION
750

Fulica americana

June 18 Jewel Lake, 510 ft., Contra Costa Co., Calif. - 3 yng seen on S pool at 1:10 p.m. but 1:15 p.m. 4 yng present - all in medium gray immature plumage, two youngest still have distinct pre-ocular spot, one has a faint one, all have well developed tails and under coverts. Give been here for 20 minutes now and still no adults seen. A moment ago something tried to catch a ♂ Red-wing as it hovered low over the water after an insect. Nest N26.18 still in good shape and in use. Nest N25.24 - no eggs but still in use. Platform P25.21 - a few feathers around but otherwise little sign of use. Nest P25.7 - still present but not utilized. What may be a new nest or platform is at M21.2. It is a loose pile of both green and dead cat-tail leaves. I suspect it is a platform and that a nest is nearby. The nest with 8 eggs (marked 1-8) is at H17.2. Eggs warm, nest largely of dead broad-leaved cat-tail, some green from the surrounding narrow leaved worked in. No sign of adults. Nest is about 3 feet in from ~~ed~~ open water, not much ramp but what there is faces E. Belatedly the ♀ gave three uncertain "poonks" from near H15.

June 19 same locality - 7:45 a.m. - ♂ flushed off nest H17.2 - still 8 eggs, all warm. He moved out into the open part of the lake

p. 504

see photographs

une 19 Jewel Lake, 510 ft, Contra Costa Co., Calif. - churning and punking. 8:20 a.m. - 1 adult and 5 immatures are feeding in the area H-K 24-27. Can't tell whether or not a bird is on Nest H17.2.

une 20 Univ. Calif. Campus, Alameda Co., Calif. - G-VA9 - square shield, legs greenish yellow, no wing molt, shield SS and scaly. T97 - no wing molt, legs yellow-green, shield SS, class 8. P/O - lost left tag, legs greenish yellow - almost in Y class, no wing molt, shield growing some, S, class . T99 - legs greenish yellow, no sign of wing molt. T00 - legs yellowish-green, shield 7S, swollen in a knot like manner, no wing molt. VO G - really yellow legs, shield flat, class 9, no wing molt. Y-YR - legs, yellow green, shield shows little sign of regression, no wing molt, shield 4S. W-R-(T95) - killed, shield photographed in BW, 10S, weight 454 grams, shield in Bouins, leg saved, ♀, no large follicles, in fact whole ovary small, undeveloped, a few 1-2 mm. follicles but mostly smaller, Bursa 20 mm long, but very narrow. This bird was in good physical shape, with a good supply of fat on it.

une 21 Lake Temescal, 420 ft, Alameda Co., Calif. - The M pair don't seem to be making any headway towards nesting. The structure at K7.17 is still extant but is not much developed in recent days. It seems to be settling from lack of new additions of material. Ruddy nest J6.16

Fulton 1950

Fulica Americana

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258/18

Neck dangles used in this study- symbols used in text for these tags are: ① - W/B; ② - B/G; ~~③ - W/B~~; ③ - B/W; ④ - B/W; ⑤ - B/W; ⑥ - III; ⑦ - W/B. The symbols always refer to the pattern of the right tag (indicated by arrows).

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me 21 Lake Tenescal 420 ft., Alameda Co., Calif. - has finally been eaten to pieces. It is probably no longer usable for Coots. The Ruddy nest at J 6.22 is in heavy use by Coots, it has a lot of feces on it. The nest at J 7.21 is looking a lot like an egg nest, it has a nice new ramp, no feces, a well formed cup and generally all the attributes of an egg nest. Nest I 6.1 - still well built up and in good repair. Nest I 6.18 is

. GULLION
950

une 21. Lake Temescal, 420 ft., Alameda Co., Calif.-
becoming more and more massive. What looks like the start of another structure is at H 7.24. The M♀ still seems to be staying near her territory but not too effectively. Both P16.2 + .17 are still in good shape. The former looks as if it is being readied for eggs. Its about time for a second clutch to appear in this pair. The ♂ has lost his tags but the ♀ still has hers. The nest at Q 22 is not in use again and the Q 23.8 affair seems to be abandoned. As both birds swim near me, the ♀ is "poonking" and "punk-unking" interchangeably, the ♂ is giving mostly the "pul-que" note with only an occasional "punk". The SW pair are keeping their area pretty well clear of Mallards, with one chase being seen at E 13-14 as one SW adult attempted to clear a half dozen ducks from that area. Later, when a fellow threw some bread crumbs etc out at Q 21, the birds showing interest did not come in any closer than about N 20-22, since the E ♂ was busily gathering the food up and taking it to his brood near O 17. As he moved down with the bread his mate came to meet him and to carry some of the food to the ying. Tho he ate quite a bit of the bread, most of it he carried, in about 10 trips, to his brood at O 17. Finally the pair of

Fulica americana

ne 21 Lake Temescal, 420 ft, Alameda Co., Calif. — tagged Mallards got into where the food was but it was all gone. Of the Coots, W/Bl came over showing interest but never got near the food. When the adults get to the yng they feed the first one they get to, which means the crippled one gets a very small share of the food. The two others both meeting their parents as they approach. Now the ♀ is coming down with the ♂, he picks up the food, she takes part of it, and together they return to the brood, still at ☉ 16-17 10:06 a.m. O seen at ∠2 - so he is still on the lake and both tags still on. There seems to be little inter-specific antagonism in the SE area. 3 Mallards were tolerated there while the SE ♀ fed within a couple of feet of them. The SE yng is in the all black stage, with bright orange-red bill. It is feeding pretty much by itself. The SE birds were bowing and nibbling; first the ♂ bowed and then nibbled on the bowing ♀, then he'd bow and she'd nibble. The SE yng is in a stage where the wire feathers still are colored, but all the plumes are lost. A little later the wire feathers fade out and then the yng gets the hoary appearance to its head. 10:33 a.m. - just now there was a rather severe clash at I 8.24. Both SW and both SE birds were in it. Apparently the ♂♂ were doing the actual fighting. The SW yng

GUILLION
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950

Fulica americana

June 21 Lake Temescal, 420 ft., Alameda Co., Calif. — were nearby, "peeping." Much paired display. Once, the SW ♂ attacked the SE ♂! as he was in display, he quickly turned tho and returned the attack. 10:41 — the attack having been ended for several minutes, the SE ♂ was up on a board at J7.9, in a partial arch, no note, just the plumage display. After a moment or two he stopped and preened and then departed. Tried to photograph the E brood with their white-fronted stage.

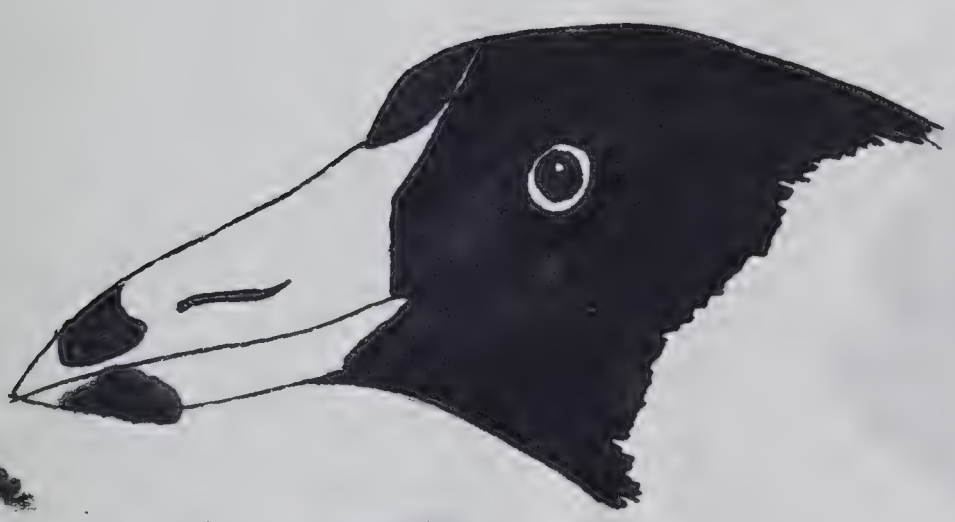
June 22 Jewel Lake, 510 ft., Contra Costa Co., Calif. — About 1:20 p.m. I watched two medium gray immatures react to a snake swimming in the S pool. Surprizingly it was one of curiosity, they followed along more or less beside and to the rear of it as it moved over the surface of the now emergent pond weed. In one clear area the snake went under water and one immature followed it very closely as it moved under water. Two of these immatures still have a fairly light gray breast, but they are mostly medium gray, some indication of dark gray appearing on the head and nape of a couple of birds. Their bills are all dark. The white pre-ocular spot is no longer present on any bird. 8 warm eggs in nest H17.2 — no birds anywhere around, later I found the nearest adult (sex?) at I24 feeding with 4 immatures, while the mate

N. GULLION
1950

Fulica Americana

510

T88 (Y/R) 5/10/50



#654 (G/C) 4/19/50

T85 (VOG) 5/10/50

See p. 453-455

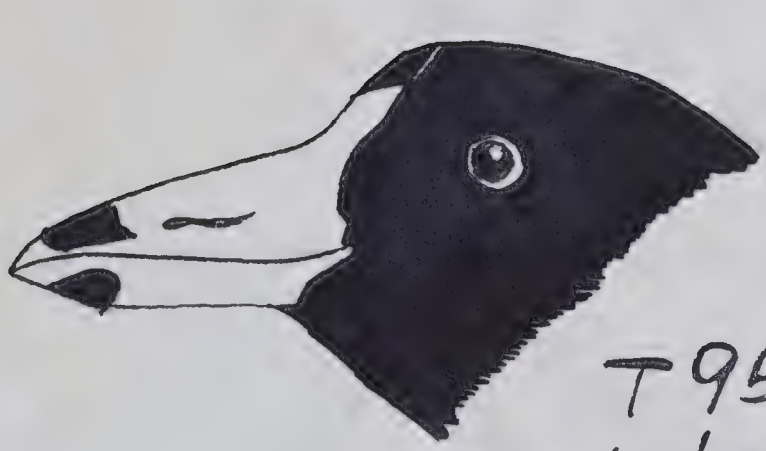
W. GUILLION
1950

Fulica americana

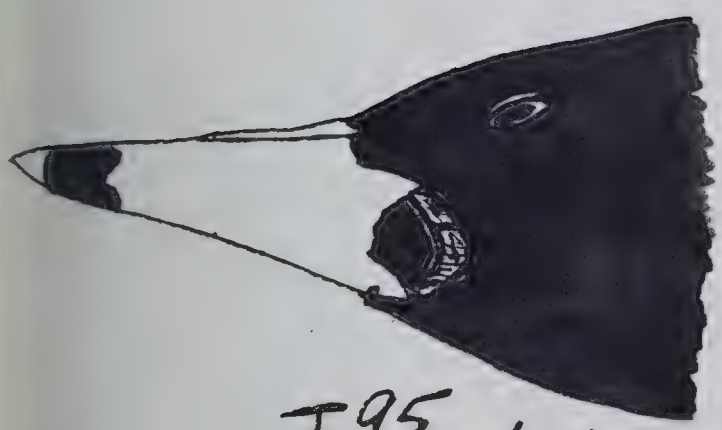
511

T95
5/10/50 (W-R)

F



T95
5/17/50



T95 5/17/50

see p. 454

Fulica americana 512

T96 (G-Y/B)
5/10/50

GULLION
750

June 22 Jewel Lake, 510 ft Contra Costa Co, Calif.-
was at J28. ♂ was at the nest at about
2:50 p.m. Now, ten minutes later, the
closest adult is drifting towards the nest
area. ♂ pulled a few cat-tails from in
front of the nest, and ales cleared two
holes through the cat-tails so ♂ can see
when any bird approaches or leaves the
nest. Since the ♂ is the bird with the
pointed shield in this pair, he is the
bird nearest the nest. But now the
♀ is moving S along the west side of
the open water and has stopped to feed at
J24. Only four of the immatures are
out feeding. They seem to be completely
independent of the adults. They act
like a normal flock rather than
much of a family group. 3:06 - now the
2 adults have united together to do
some billing and bowing at H23. Here
comes the fifth yng, working N from
S part of the pond. 3:17 p.m. - all five
yng are feeding together on the open water
and a minute ago they were preening
there. About 3:15 p.m. one bird was
apparently in on the platform at M2
giving a series of low calls. That bird,
or another, came out of there, moved over
towards the rim, apparently giving
some sign of threat since the yng
started "peeping" and keeping well
ahead of the advancing parent. Then
the parent turned S boarding towards
the nest 3:22 p.m. When the parent

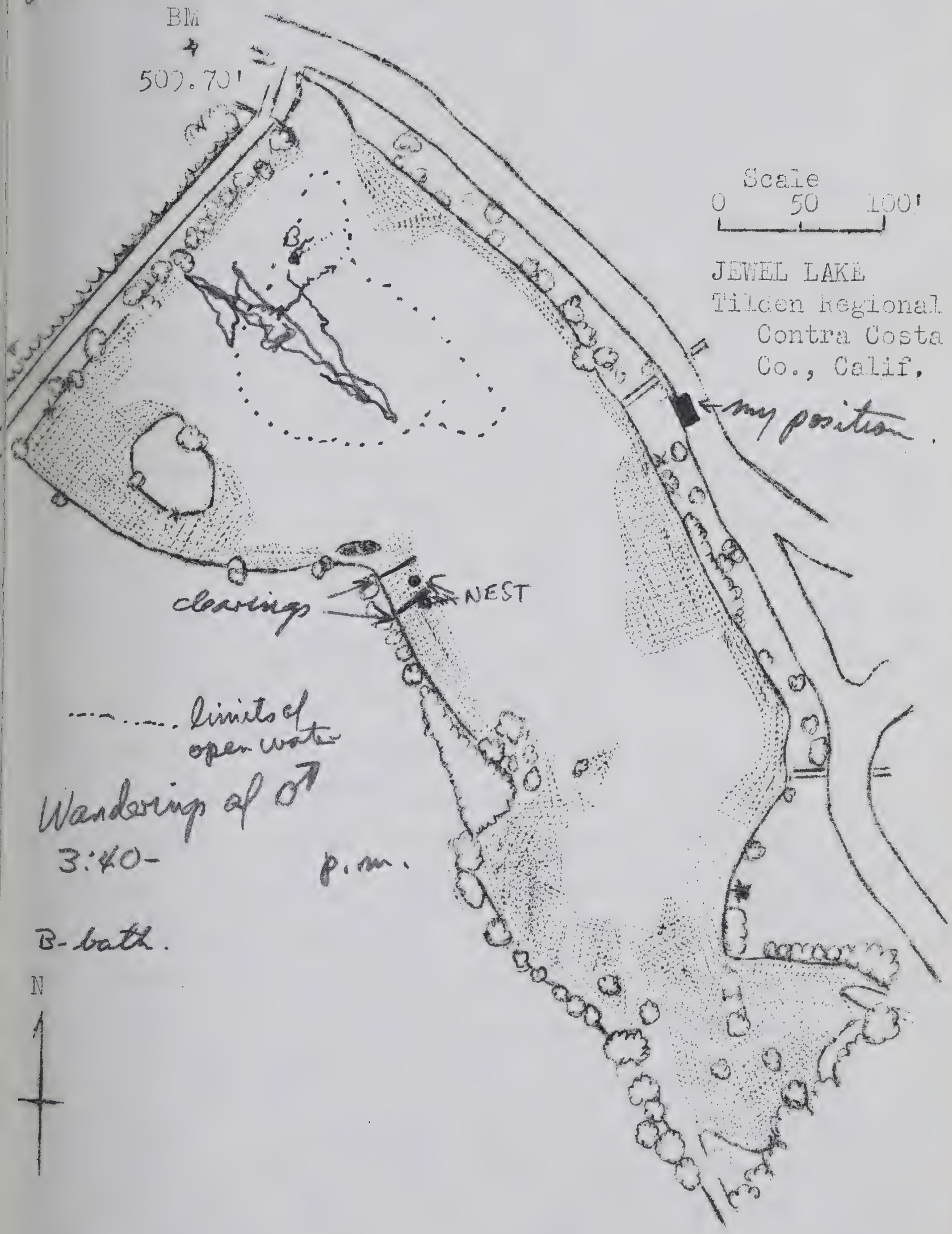
GULLION
950

me 22 Jewel Lake, 510 ft., Contra Costa Co., Calif. — Dived for a moment the imm desisted in their feeing and remained in place for awhile, when she came up, some started to go into the begging pose, but stopped quickly when she started a semi-charge. Starting S at 3:22 she worked down to H17.21, working into the edge of the cat-tails there, then worked along the cat-tail edge, passing right by the nest, then turning N past it again, finally going into the nest "hole" at 3:26, and finally onto the ramp about 3:28 p.m and settled a moment later. Meanwhile the ♂ came out to feed on the open water at I25, with all but one immature out of sight to the E or NE of him. 3:35 — 4 immatures were feeding scattered all over the open water, with the ♂ at about their middles. About 3:40 the ♂ started out of the open area and at 3:43 he vanished into the cat-tails at K28. At 3:45 3 "pubbs" (the real thing), came out of there. The water is at a minus one inch stage — checked at the dam. 3:49 he has come out of the cat-tails at K28 and moved to the open water. 3:55 he worked E out of sight, feeding. 4:01 — he's back in sight, and now is bathing. 4:04 he disappeared to the east again. 4:20 he is back out on the open part of the lake, slowly working S. He is diving to feed, but also doing at lot of feeding by tipping and even picking up

GULLION
1950

Fulica Americana 515-

June 22



GULLION
950

June 22 Jewel Lake 510 ft. Contra Costa Co., Calif. — things on the surface. The immatures feed more or less together most of the time, but seem to do so apart from the adults. 4:27 p.m. after drifting to G22 — some people came to J18 and he moved N to I 27. Now 4:30 p.m. he has gone back into the cat-tails at K28, exactly at K28.7. — for the 2nd time. I would guess its about time for him to relieve his mate. 4:36 p.m. he is still in the cat-tails at K28. The immatures are feeding, 0 catted all over the lot. 4:38 he came out, moved to the open water to feed, he seems to be moving more directly S. 4:41 he's at G21 still stopping to feed etc, but still drifting S. 4:42 — now he's moving a little north. 4:47 — some daydreaming and I lost track of him. I think he is still on the north pool though. 4:59 p.m. in the last few minutes the fog has closed solidly over the hill to the west and for awhile no birds were to be seen. Now 5:02 four immatures are back on the open water — feeding. 5:06 p.m. Don't know where the ♂ went to, he may be on the nest, I'm not sure. 5 immatures are feeding on the open water, but no adults. He apparently was feeding in the E 27-28 area all this time, for he came out at 5:10 p.m.

pages. 517-525

see photographs

GULLION
950

Fulica americana

~~562~~
-526-

me 27 Lake Temescal 420 ft., Alameda Co., Calif.—
The structure at P16.17 is defunct, has been abandoned and become entirely defunct since the 21st. One yng of the E pair is in the white-fronted blabk billed stage. It was alone at K-N13 while the parents were paralleling me out of P16. As this yng was moving around it got out to about K13, running afoul of M♂, patrolling at J12. The yng seemed to recognize the display and quickly retreated from the vicinity. This yng has the well defined black halo etc. The crippled yng was seen a few moments later, it is pretty much in the medium gray phase. The structure at P16.2 is much developed and in good repair. No eggs, I don't know whether it will get any or not. The M♂ seems to be quite aggressive, chasing two birds as far as H17 and displaying against them. The "poonk" and "pulque" are equivalent notes, the "punk" and "punk" equivalent notes—the first pair are notes of alarm or warning, given by disturbed birds, the latter two are notes of birds not particularly disturbed. But I can't figure any single significance for them. A new structure is under development at O23.10. It is resting about 6 inches above the water among a dense mass of wind toppled cat-tails. A ramp may be

GULLION
950

Fulica americana

June 27 Lake Temescal, 420 ft., Alameda Co., Calif. — started on the E side, I am not sure. This beginning base is composed mostly of long wet and dry pieces of narrow leaved cat-tail (both species are in the surrounding vegetation tho the nest in is broad-leaved). There seem to be few, if any stems worked in. First the male splattered up to defend then the ♀ replaced him and he went back to care for a couple of young. A new platform is located in the Q 22 clump, it looks like a display or copulatory platform, just a loose aggregation of cat-tail stems, both old and new. There may be only 2 yng left in the E brood. When I came in this morning O was seen feeding in the S bay, both tags on and in good shape. One egg in nest K7.17 - some kids were nearly so I didn't investigate further. What may have been destined to be a display platform was at K7.13 - also some stray cat-tails at K9.3. Neither M birds showed any great concern about this nest. A well built platform at L4.3 - well used, must be a display affair. It is flat, about 1½ inches above the water, all wet, composed of long dried cat-tail leaves, ~~both~~ mostly narrow-leaved. A little green stuff laid in, it is about 1 foot in diameter, and nearly round. The ♂ "pulqued" at me all the while as I examined this structure -

Fulica americana

June 27 Lake Temescal, 420 ft, Alameda Co., Calif. — This L4.3 platform is well concealed. The Ruddy nest at J6.22 is still in good shape and being used by the coots for some purpose. The nest at J7.21 tho in good shape, is so exposed from some recent mashing of cat-tails by someone that I doubt it will have any future. Of the SW brood, one has a fairly dark bill, the other two still have quite orange bills. The nest at J6.5 is completely abandoned and completely gone. The nest at I6.1 is still extant, but may not be in use. The SW pair have a display platform at H6.15, just a collection of dried cat-tail leaves piled on some cat-tails broken down by someone wandering in the marsh. It is new since the 21st, as is the platform at L4.3. The deal at H7.24 that was merely an accumulation of cat-tail stems on the 21st is now a very bulkage nest with a ramp facing to the N. It seems to be nearly as large as the I6.18 nest. Both parents are out in the water, the ♂ "pulguing", the ♀ "poonking". Also the 3 yng are nearly "whewring" — when the ♀ turns to feed the yng she shifts from the "poonk" to "punk". The "poonk" is accompanied by head bobbing but the "punk" is not. The H7.24

I. GULLION
780

June 27 Lake Temescal 452 ft. Alameda Co. Calif. — nest has a well formed wet cup. Another display structure, composed mostly of green cat-tails, is at H6.4. The nest at I 6.18 is still in use, well built up with a wet cup. Wet cups in old nests or feces on or about the structures seems to always indicate that it is a brood nest. Young egg nests may be built of wet cattails they are allowed to dry and the nest itself is kept dry and free of feces. Found a Coot secondary and several other feathers about nest H 6.18, indicating that molting may be commencing.

Jewel Lake 510 ft. Contra Costa Co. Calif. — 12:45 p.m. - a bird is incubating at H17.2- no other Coots visible on the pond. At 1:25 the ♂ approached the N from the S, to G16.16 then saw the car, so he stopped and moved S. At 1:29 he returned, went to the nest with a bill full of dried cat-tail leaves and went up on the ramp to give them to the incubating bird. Then he departed, away along the open edge, to H12, but at 1:33 was back at the nest again with a load of cat tails. Again the stuff was taken by the ♀ and he departed. All this while two immatures were feeding at G15-16. Once one of these immatures tried begging but the ♂ pecked it, another time, a young was in the nest

V. GULLION
1950

530

Fulica americana

June 27 Jewel Lake, 5101 ft, Contra Costa Co. Calif. —
of the ♂ is not yet pecked. Both of these immatures are very nearly the size of the adult. In fact one looks to be fully as large as the adult ♂, or larger. 2:41 p.m. the ♂ came up to the nest from the S, with a bill full of long dried cat-tail leaves. As he came up the ramp the ♀ got off the nest and left to the S. A few low "puts" were heard. The ♂ spent about 1 minute preening etc before settling on the nest. To 3:48 p.m. there was not a second shift. The incubation pattern is different here, but find what the difference is I don't know, except longer intervals. 4:00 p.m. No defense of nest when I waded to it. The eggs all very warm, but #3 is missing. No adult even in the vicinity. A couple of moments later as I moved out to pull some cat-tails, the ♂ got out of the cat-tails about 10 feet south and proceeded to chuck and "pulque" and generally carry on. Four gray immatures moved N along the cat-tails on the E side and he worked N as if to join them. At 4:20 a bird might be on the nest, I'm not sure, 5 immatures are feeding ~~of~~ on the clear water of the N pool, what clear water is left.

GULLION
950

Fulica americana

531

June 27 Lake Temescal, 420 ft., Alameda Co. Calif. — At between 9:30 and 10:00 p.m. tonight, after dark, the one egg in nest K7.17 was warm and marked, both adults and two yng were in the P16 area and the P16.2 nest was warm. ~~The nest~~ Checking nests at the S end I found nests J7.21, I6.18, I6.1 and H7.24 all warm, that is being used. The old Cuddy nest at J6.22 was cold. A bird was giving a "puhk-uhk" note repeatedly near the K7.17 nest just a few minutes after I'd been out to it.

June 28 same locality — Checking back at 2:15 a.m. found a freshly laid egg in nest K7.17. A bird had been on the nest and apparently burrowed in the cat-tails nearby. After I departed I heard a cackle from there. Checking nests at G23.8 and G23.10 found them both cold. Also the platform at L4.3. The ♀ was quite concerned about this new G23.8 nest. Only the ♂ was with the yng at P16.2.

June 28 Univ. Calif. Campus Alameda Co. Calif.-
P/LG- shield photographed BW, shield 8×13 mm, shape of class 11, SS. Legs YG, no molt, heavily tempered. Bursa about 22 mm- tags not on as securely as could be wished for.
T96- shield photographed in BW, shield 7×9 mm, shape of class 8, F. Legs YG, no tags, no molt, bursa 15 mm. a very mild tempered bird. T99- shield photo BW, class 10 SS, legs GY, moderate temper, no molt, bursa 16 mm, no tag. LG- weight 444 gms, shield photo. BW condition 4 F, bursa ? mm taken before removal, legs Y. (bursa couldn't be probed) Sheild and testes in Bouins. Testes about 10 mm long, hence not greatly enlarged. Bursa very short, little more than the pocket present, probed to 10 m.m. T- R- shield photo BW, class 4 S weight 371 grams, bursa in place 28 mm, legs YG, no sign of estrogen pellet under skin, frontal shield and tongue in Bouins. Ovary with several small but well defined follicles, one possible corpora lutea. Follicles larger than in any other bird thus handled- in Bouins Bursa on this bird 30 mm long, white and flabby, nearly as large as any bird worked with. Filed it in Bouins.

June 28 Univ. Calif. Campus, Alameda Co., Calif.— Both killed birds were sexed first by their syrinx and secondly by their gonads. Two mesenteric smears made from 10G/♂ and the tongue of Y Y♀ was saved. Wesenberg found a nasal fluke in 10G/ and also the nematode ulcer. P/O-shield photo BW, class 8 but 7×9 mm, SS. Wt. 379 grams, bursa 23 mm in place, legs YG, sex ♀. Bursa 25 mm, white and pointed narrow but not pin like. Ovary with several distinct but small follicles, still larger than winter birds.

June 29 Lake Temescal, 420 ft., Alameda Co. Calif.— At 1 a.m. a new egg was in nest K7.17. Since it was so very much warmer than the other two eggs I suspect it had been laid during a few minutes previous to 1 a.m. A bird was flushed from the nest. The ♀ was brooding 2 yng at P16.2 while the E ♂ roosted nearly on a floating board. Nest P16.2 was of course warm. Nests G23.8 + .10 both cold. Nest J7.21, I6.18, I6.1 and H7.24 all warm. Ruddy nest J6.22 cold. Lots of birds were flushed from this Sevd, Ruddys, Mallards, Red wings as well as Coots.

— same locality At 11:35 p.m. the ♀ (SE) was on nest K7.17 - only 3 eggs. 11:43 p.m. a bird gave a series of sharp "punk-tunk tunks" a little resembling the cackle but actually quite

June 29 Lake Temescal, 420 ft., Alameda Co., Calif. — a different note. Its the same note I've heard on the two previous nights after disturbing the nesting bird. Moon is bright enough to write this by tonight - it also is warm, actually hot up on the hill but about 15-20° cooler here around the lake. Checking the P16 area, found the two E yng both in P16.2 while the ♂ was on a board a few feet to the E and the ♀ was on some pushed over cat-tails a few feet to the N. Found a well developed nest at Q22, just west of their earlier nest. Nest Q23.10 seems abandoned. Despite the warm temperature and bright moon there seems to be no nocturnal activity by any birds. Only the Bullfrog giving an occasional series of croaks.

June 30 same locality — From 12 m. to about 12:30 a.m. I checked the west side of the lake for roosting Coots. After a great deal of difficulty I was able to drive two out from the willows at F17 and at D29. W/Bl was one of the birds at F17. Both of the F17 birds dived repeatedly, one working to F22 by repeated dives, the other going out quite a ways into the lake and then working back to F17 by repeated dives. The birds from E D29 took no such evasive action but they returned to their roosting site as soon as they could. The intermittent hooting of a pair of Horned Owls from the hill to the E may have had something to

llon
250

June 30 Lake Temescal, 400 ft., Alameda Co., Calif. — do with this behavior, but I doubt it. At 12:50 a.m. a new egg was in nest K 7.17. Nests J 7.21, I 6.1, I 6.18 and H 7.24 all warm and in use.

July 1 Univ. Calif. Campus, Alameda Co., Calif. — Bird O/Br (T 91) - shield photo BW, both frontal and lateral views. The red part of the shield is still missing, or at least most of it is. Shield 4 SS - but 6 × 6 mm rather than 8×8. Legs YG, temper bad. No indication of molting yet, under wing coverts very mottled. Bursa 24 mm. Bird T 97 (Br) - shield photo BW - class 8 SS, legs YG, temper moderate, no molt of wings, under wing coverts mottled, bursa 14 mm. G-G♂ - shield photo BW + Color both frontal and lateral. Legs YG, no wing molt, shield 9 SS, bursa 22 mm, under wing coverts mostly plain. Bird T 00 (W/B) photo BW - shield 7 SS, under wing coverts plain, legs YG, temper moderate no wing molt, bursa 20 mm. — 11:40 p.m. SE ♂ on nest K 7.17. chased him off, 5 eggs in this nest. Checked P 16.2, found the E ♀ w/ 2 yng on the nest, the ♂ off, roosting nearby. The ♀ probably wasn't actually brooding the yng, but rather sharing the roosting site. Nest Q 22 much developed and Q 23.10 looks better, put a loop in it. Q 23.7 deserted as is P 16.17. Several Ridley

July 1 Lake Temescal, 420 ft., Alameda Co., Calif.—
Ducks nest in the P16 area. No bird
on nest K7.17 at 11:56 p.m.

July 2 same locality — 12:05 ~~p.m.~~ a.m. a bird
heard getting onto nest K7.17. 12:15 a
m. a bird is on the nest, sex ?. Checked
nests, J7.21 cold, I6.18 cold, I6.1
and H7.24 warm, also the Ruddy
nest at J6.22. Found a new, well
concealed and well developed nest
at J6.7, near site of older one.
Checked for night roosting, found 1
bird at F17 and 1 or 2 at F12.
At F17 bird flew repeatedly as it
moved far out into the lake. 12:58,
still 5 eggs in nest K7.17, a bird
flushed off. The eggs were warm but
all wet. Now, 1:03 a.m. I hear a
bird adjusting cat-tails on or near
the nest. Now at 1:05 quite a bit
of cat-tail readjusting is going on
around the nest. About 1:10 a.m.
Checked the P16.2 nest, the two yng
were on it alone, with both parents
in the cat-tails just N of them.
A remained motionless in the cat-
tails for about 15 minutes, all the
while the yng nearby gave a low
drawn out "wheeeep" repeated at
close intervals. At 1.48 a.m. the
♀ was on the nest, egg 6 was laid.
It had the white deposit noted
on fresh eggs before, also little globs
of a jelly like material.

Bullion
1950

Fulica americana

July 4 Lake Temescal, 450 ft. Alameda Co. Calif.—
12:01 a.m. — 7 eggs in nest K7.17 — the unmarked ♂ on the nest incubating. 2 immatures on nest P16.2 — the ♀ ♂ was in the cat-tails just N and the ♀ apparently at P16.17. Nest G 22 still in good repair, the loop placed in G 23.10 has been trodden upon but had no material added on top of it. 12:25 a.m. ♀ bird back on K7.17. It is the male. Nest J6.7 warm, J7.21 warm from Mobil wood, J6.1 and J6.18 curiously wet but not warm, H7.24 warm. I wonder if the SW pair have a new egg nest somewhere. 12:40 — SE ♂ on nest K7.17 12:55 a.m. ♂ still on nest, still 7 eggs. 12:59 no bird back on nest yet. 1:02 still no bird on nest. 1:10 a.m. the ♂ is back on the nest. 1:15-1:30 a.m. I walked the W side of the lake — found 2 Coots at F17 and one at D29 — all three moved across the lake by protracted dives. 1:35 SE ♂ on K7.17. at 1:40 no swimmers on P16.2, one water nearby, apparently with ♀ parent, E ♂ in his usual spot, about P17.19. About 1 a.m. one of the SW young was wheezing a lot, sound as if it was being mauled, the peeping was heard accompanied by low tones of an ♂ adult — perhaps the SE yng was out of home range. The fussing must have lasted for about 15 minutes. 1:55 chased the ♂ off again still 7 eggs, he chattered as he moved out into the cat-tails. I chased

Fulton
1950

July 4 Lake Temescal, 420 ft., Alameda Co., Calif. — Tim so he crossed to the J 6 side and was heard over there. Now a series of low notes are coming out over there. Apparently the notes telling one bird it should be on the nest. Twice moved head churning at J 6, or J 7, but it may have been against other waterfowl 2 a.m. still no bird on nest so din leaving.

— Jewel Lake, 510 ft., Contra Costa Co., Calif. — At arrival 10:28 a.m. a bird is on nest H 17.2 - this nest should have at least one egg hatching today or more. I think the incubating bird is the ♀. At one time I saw one immature at F 9. It was getting the dark head and back of neck, also the bill is very dark. otherwords it is going into the dark phase of immature plumage, the last juvenal plumage. Now at 12:50 I have seen only two birds today, the incubating bird and the one immature. 12:44 finally saw four immatures in the S pool. One has a quite light bill, another less light, and two dark bills. All seem to be going into the last juvenile plumage, that is, the dark gray phase. 12:47 - now an adult is feeding nearby, no indication of antagonism shown. Either in fear reaction of immatures or aggressive attitude of adult. 12:55 - all 5 immatures seen feeding in the south pool. The fifth seems to be inter-

Fulica Americana 539

Fulton
1950

July 4 Jewel Lake, 510 ft., Contra Costa Co., Calif. - mediate in bill color, the middle bird in development. Here birds all seem exceptionally shy, the adult. in particular I wonder if they are in molt, should see through. 1:50 p.m. - Ive been here for 3 hrs 22 minutes and there has been no change in incubation. At 2:15 p.m. I checked nest #17.2 - no parent around, #1 about ready to hatch, #4 one pipped others all warm measure.

#1 - 31.3 x 45.7 mm. #2 - 31.5 x 45.4 mm.
#4 - 30.9 x 45.5 mm #5 - 31.9 x 47.2 mm
#6 - 31.7 x 48.6 mm #7 - 31.1 x 47.6 mm.
#8 - 30.7 x 49.7 mm. The eggs in egg #1 is wiggling constantly. No parental defense of the nest at all. Left the nest site at 2:28 p.m. no sign of parent around. The platform at N21.2 is held up on one side by four green cat-tail leaves pulled down and worked into the nest. But this is about the only nest that has been effective in. The other side has collapsed. The nest at N25.24 is well built up and apparently in use as a roost or brood nest. The ramp is non-existence but it otherwise is in good repair. The brood nest at N26.18 is newly built up with some freshly added material in it. Some leaves still wet from where they were in the water but are now on top. 2:53 - ♂ followed by 5 young worked up towards the nest, he heard the wiggling of the young, and apparently

July 4 Jewel Lake, 510 ft., Contra Costa Co., Calif. - unaware that the ♀ was chased off and still off the nest, moved in quickly to investigate, then seemly alarmed over her absence, he quickly backed out and is working on out across the N pool. Once he gave a pukk. He moved quite away ahead of the brood and they had to splatter to catch up with him at 2:59. At least 2 have fully developed primaries, with white tips to secondaries etc, and a couple are not quite fully developed, had a little trouble splattering. These immatures seem to be well tolerated in the nest vicinity. They all moved up to feed about the opening of the cover. 3:10 I'm still not sure whether or not a bird is on nest H17.2. - the light is bad.

— Lake Temescal, 420 ft., Alameda Co., Calif. - Checking about 8 p.m. I found the 8th egg in the nest, laid after 2 a.m. this morning. The ♂ was on the nest, it was late dusk, and he sure opposed my going out to the nest, with churning etc. Once he almost climbed back into the nest after me.

July 5 Jewel Lake, 510 ft., Contra Costa Co., Calif. - At 6:42 p.m. egg 1 has hatched in nest H17.2 - #4, 5 & 7 are pipped, #4 well pipped, the other two slightly so. The ♂ was showing concern about the whole thing, but the female was not around. He churned and steadily fussed while I was

Gallion
1950

Fulica americana

July 5 Jewel Lake, 510 ft., Contra Costa Co., Calif.-
near the nest.
Lake Temescal, 420 ft., Alameda Co., Calif.-
7:50 p.m. SE♀ off nest at I 7.6 as ♂
must be on. Nest H 7.24 looks about
ready for eggs, it is lined with dry
material for the first time. The M pair
are still together, but seem to be restricted
to the SW side of the island. About 7:45
W/Bl trying to get in to roost in the
S end was routed by the SW♂, but
he ignored the M pair under the willow
at J 9.15. But at 7:56 the SE♀ went
out and routed both of them around
the W side of the island. The nest at
J 7.21 seems to be occupied by Mallards
exclusively. A new structure, display
platform like, has been built on a
floating wood at P 16.4. It is composed
mostly of green cat tail leaves.

July 7 Jewel Lake, 510 ft., Contra Costa Co., Calif.-
Set 8:30 a.m. The ♂ is on the nest,
the ♀ feeding in the N pool. Two
immatures, marked S by the nest
without interception, but they seem
to give the nest wide berth. One of
these has a light bill and a dark
gray head, neck and forparts, the
other just the crown and nape
is dark. 8:43 - another immature
with light bill came down the
lake in advance of the ♂, showing
obvious signs of mistrust in
her intentions, the imm kept
trying to peep but got no result

July 7 Jewel Lake, 51 ft. Contra Costa Co. Calif. — or very little. It repeatedly assumed the patrol position as it moved along, finally resting off to one side and letting the ♀ pass without incident. About 8:45 a.m. the ♀ took what looked like a damsel-fly into the nest, one of the young came out from under the male to take it, then she moved off, coming back at 8:50, this time one of the yng started to follow, but she moved off so rapidly and left it behind. ♂ went back under the ♂. As the ♀ moved off she came to one of the yng at 4.8. As it started to beg but she chased it so it moved out to the middle of the lake and she chased no further. This bird has fully developed primaries. A moment later the ♀ returned with some more food. This time the ♂ took some of it, giving it to yng while another chick reached out to take more food from her bill. 9:40 — egg #7 pipped #2,698 still unmoked. and cool. I caught one young and photographed it in BW & color against a natural background. This young is very much smaller than they usually are, that is no doubt the result of the much smaller egg laid by the ♀.

— Lake Temescal 420 ft. Alameda Co. Calif. — At 11:05 a.m. at arrival, the SE ♀ on nest 17.17. She got off as I waded in close to the tall a bench

...lion
750

July 7 Lake Temescal, 420 ft, Alameda Co, Calif. — out of the water. 11:13 SE ♂ attached the M ♂ at L11 and chased him out of the SE area, but no further. 11:20 a bird was on but popped off quickly when I approached too closely. 11:30 a.m. the ♂ is on nest K7.17. 12:09 the ♀ is on the nest. The M pair are staying as close to their old territory as they can, but they are having no luck in trying to defend it, in fact they are not even attempting to defend it. The M ♀ is spending a lot of her time at K8, under the willow there, while the M ♂ hangs around the N side of the island. The two M birds seem to be sticking together pretty well but show little sign of courtship activity. 12:25 - the SE ♀ is off the nest of her on accord. The SE ♂ has been feeding the 1 SE-yng in the J8 area while a ♀ Ruddy Duck w/4 yng was being vissily courted by 2 ♂ Ruddies which were at odds with one another. Also several Mallards were moving around in various activities. Watched one chase today in which the pursuing bird splattered, or at least tried to, without using its wings. Earlier I saw an E bird (♂?) chase a ♀ Mallard out of the P22 area. 12:32 p.m. still no bird on K7.17 12:34 p.m. a SW bird just routed at Mallard at I7.5. 12:35 the nest is still uncovered. 12:40 the SE ♀ got back on the nest. She carefully preened

Illus-
950

Fulica americana

July 7 Lake Temescal 420 ft. Alameda Co., Calif.—
her breast and belly feathers white on the
ramp, perhaps to free her of all water so
as to not dampen the eggs and cool them.
It always takes out 1 minute for a bird
to get properly set to incubate. 12:45
the ♂ still is trying to distract the
SE ♀ when he attacks her but she is
not particularly successful. 12:50 p.m.
the SE ♀ is at work chasing Ruddies
and Mallards out from the J8 area.
3 young boys fooling around close to
the K7.17 nest did not cause the SE ♀
to get off the nest. About 1:15 she did
get off the nest when some older fellows
were nearby. 1:18 p.m. the ♂ is coming
on the nest and settled by 1:19 p.m.
Checked H7.24, I6.1, H6.18, J6.7
all normal in good repair, platform
K4.3 is going to pieces, but may still
be in use, if or nothing is being
added to it. 1:55 p.m. - SE ♀ was on
nest, SE ♂ at K6.1 feeding. The
deal at P16.4 is composed almost
entirely of the leaves of the green
cat-tails I broke down so I could
observe nest P16.2 from above.
Most of these leaves are still attached
to their bases, maybe all of them are.
A new platform at P23.15 - maybe
an E pair structure or may be
a Ruddy affair, will have to see.
Once a couple of the ♂ ♂ were
chasing a young Ruddy Duck at
about N14 - it dived to escape -

July 7 Lake Temescal, 420 ft., Alameda Co., Calif. — but I'm not sure it was territory defense, more likely curiosity. Took BW & Color of SW area, color of roosting trees and E area from on the hill.

July 8 Jewel Lake, 510 ft., Contra Costa Co., Calif. — About 8:10 a.m. the ♀ chased one of the immatures out from the cove area, causing it to dive and then persistently attaching it as it surfaced for air until it had moved about ½ way across the lake. By 8:15 she had moved down to the nest where the ♂ is brooding, gave him some food for the yng, and then moved on. About 8:30 she had one of the yng off the nest at H17.11, and was going out and collecting insects for it. At 8:38 the ♂ got off the nest and moved out to feed at I J 20-21, and a second yng joined the one being fed by the ♀. The immatures apparently are being treated unkindly for they have been exceedingly shy this morning, just coming out for a moment. All five have been seen. Two immatures have been feeding by the opening to the NW cove, but as an adult approached, one of them moved off rapidly, the other showing no concern, and not being attached when the adult came in fairly close. However, that ~~yng~~ imm. gave the adult wide berth. Now at 8:50 an adult (♂?) is back on the nest with the two yng. The other parent has vanished into the cat-tails

276

pages 546-549

see photographs

Allison 950

Fulica americana

550

July 8 Jewel Lake, 87 Ft. Contra Costa Co., Calif. — along the NW cove. 8:57 - the adult by the NW cove came out, one immature begged and was given an insect the adult had in its bill, but a moment later it was pecked. Two other immatures close by noisily departed when the adult appeared. A lot of the insects this adult is carrying appear to be freshly emerged dragon- and damsel flies. Apparently the ♀ was on the nest & the ♂ off. Found egg 7 hatched, #2.6 & 8 unpipped. #8 being the very long & narrow egg, smells a little strong. One yng was seen in the water nearly. Photographed narrow- & broad-leaved cat-tails in BW & color to show differences.

July 10 same locality — 1:10 p.m. watching 3 immatures feeding in the GH4 area they are staying in close to the cat-tails, apparently so that they can readily escape if attacked. They are behaving much as the immatures did last year after the 2nd brood was hatched. ~~Each~~ All three of these birds are getting their dark plumage. One still has some of the light gray on the head but the other two are almost entirely in their dark gray plumage. They are all busy feeding by diving and tipping for pondweed. 1:20 - can't tell whether a bird is brooding H17.2 or not. A yng is in the water among the cat-tails nearly and one parent is at L27 - moving to the cove.

July 10 Jewel Lake, 510 ft, Contra Costa Co., Calif. - and out of sight. 1:25 a single immature came out from the cove area to feed for a few moments before disappearing again. I am quite sure there is no bird on the H17.2 nest. 1:31 - an adult is out feeding again, at M26 - there are no yng with it. in fact now 1:32 both parents are in the same area and there is no sign of yng near them. About 1:35 the ♀ moved from L25 to H17 then across to C16 where I lost her. She seemed to be intent on feeding yng but did not feed the one seen in the nest area. She may have fed some at B16, I don't know. 1:41 she is moving out from B18 to D26, giving an occasional explosive "poonk," the note of alarm, as she moves across towards the NW cove. I didn't hear any whewing from yng so I don't think she fed any in the B16-17 area. 1:44 - the ♂ just gave a couple of explosive "pulques" at K26 as the ♀ swam over towards him. These two birds sure seem to be without any young to bother them. 1:55 p.m. - 4 immatures seen, 3 at - no all five seen, together at EF10. diving and feeding. They seem to all be very close in plumage stages. Nest H17.2 in about 48 hours has disintegrated into a poorly composed platform, with feces on it. It is not even a decent brood nest. The 3 unhatched eggs were not found, but they will probably surface later

Fullion 1950

July 10 Jewel Lake, 510 ft. Contra Costa Alameda Co., Calif. — Platform M21.2 is not under repair, but it has not completed disintegrated yet. Put a loop in it to check, since none is present. Though nest N25.24 is in good repair it is not being used as a brood nest or for anything else. The lowering water is just leaving it high and dry. The brood nest at N26.18 is newly and well built up, with a ramp, and is probably the nest the 2nd brood is being brooded on. Checked the cattails from M27 to K28, no nest or nest like structure along there, but the ♀ at J28, repeatedly "pooned" and threatened to charge, while the male moved way out to join, or rather, to feed close to 4 immatures at FG24-25.

July 11 Lake Temescal, 420 ft. Alameda Co. Calif. — at 9:50 a.m. the E ♂ was busily chasing 4 immature mallards at NO15-16, and a minute later was chasing a pair of adults at N13. One SW bird (♂) was feeding with one young at I11. The ♀ pair are hanging around at K10, the SE ♀ was on nest K7.17 at 9:55 a.m. Now 9:58 — the SW birds are busy chasing Mallards in the S inlet area. There is a huge, for a Coot, new structure at P15.3. It is 6" high, 18" across, with a 6½" cup about 1" deep. The ramp, what there is of one, faces the open water. It is composed largely of green cat-tail leaves cut

Klein
150

Fulica americana

July 11 Lake Temescal, 420 ft, Alameda Co., Calif.
down from the surround fig marsh-land plants. There is much dead stuff in it however, some broad-leaved dead cat-tails. The structure at P16.17 is completely defunct. Both parents and yng are nearby, the adults churring and generally concerned about my presence here. ♀ Ruddy also seems to be interested. Three eggs in nest P16.2 may be the reason for their concern. The P16.4 structure must have been the copulation platform for this clutch. at 10:05 the E ♀ was incubating. P23.8 non-functional, P23.10 in good repair but does not appear to be in use. P22 next does not appear to be in use either. The both parents and ~~adults~~ yng came down to talk about my wading out to it. There two yng, the closely accompanying their parents, are not making displays. I think there is a difference in their ♀ voices but I am not certain. The oldest is just beginning to show white tail coverts, the younger still has the rounded stern. Not counting ♂ there are apparently 12 adult Coots here today - 4 pairs and 4 flocks birds. W/B is stub tagged, so are the E & SE ♀♀. Platform L4.3 not in use. Nest J6.7 in use and good repair. J6.5 is still in use but is getting badly beaten down. It is not unde repair. The SW ♀ is not to far away, "poorking". J6.1

July 11 Lake Temescal, 420 ft, Alameda Co, Calif.
is also in heavy use but not under repair. H7.24 is in use as a brood nest still, I doubt that this pair is nesting yet. There are three yng, only one with any semblance of a halo remaining. The ♀ of this pair has the pointed shield, like the M♀, the ♂ has a rounded shield, not square. This SW pair don't seem to have any platforms active at the moment so there is no use looking for eggs until they appear. 11:13 a.m. the SE♀ was chasing the O bird (tags finally lost) at J5, across the ground.

July 13 - Yesterday, with Harry Wexenberg I went over to the Stockton area to hunt Coots with Dr. John Arnold and one of his students. About 11: we stopped near Holt, about 9 miles W of Stockton, cut the boat in, and collected one of a flock of 4 (#83). Fixed its shield in Bouins and froze the nest of it with dry ice. Also got a Green Heron for Bailey. Went onto to COP joined Dr. Arnold, and hunted several areas N of Stockton Coots were scarce. In one place we saw 2 adults with a 30-35 day old yng, found a big brood nest of dried, narrow leaved cat-tails and Harry found another nest, probably the old egg nest. The habitat consisted of a smartweed, narrow- and broad-leaved cat-tails and bullrush (S. occi.)

July 13 July 12 trip to Stockton area cont'd
Otherwise we saw no Coots in that area. Returning, about 8 p.m. we went out again in the Hott area, found the 3 Coots seen earlier, but not obtained. Got one of those #84, and returned home. We worked up and down that area and these four were apparently all there were there. One wing on each of the two was badly frayed and appears to have been broken.

Univ. Calif. Campus, Alameda Co. Calif. —
Bird 84 - a ♂, leg and wing sand, wing is plain, legs on this bird were yellow. Shield in Bouins yesterday, it was swollen, class 45. Right wing of this bird broken in the radio-ulnar area, greater coverts have been molded on this side but not on the other, with new feathers coming in. Sprinx is ♂-like. Under wing coverts plain. Bursa 18 mm. - pin like - shield with feather edge-lower.

Bird 83 - legs YG, shield S ♂, class 7S, lower margin well defined. ♀ by syrinx and ovary. Ulna, in left wing broken near the elbow, but reheated crookedly. Bursa 20 mm, narrow but not quite pin like.

Both of these birds were fat and in generally good physical shape except for their broken wings.

Fulica americana

July 13 Lake Temescal, 42 ft. ~~Jewel Lake, 540 ft.~~ Alameda Co., Calif. — 11:23 p.m. SE ♂ on nest K7.17 - he went off as I came in but didn't go more than about 2 feet away. The E ♂ was on 4 eggs in nest P16.2. The P15. structure was warm tho I didn't see a bird on it. A ♂ Ruddy may have come off it. The E ♂ "pulqued" at me several times as he swam just out of the cattails. Checking Q23.10 I found 2 yng there but couldn't tell if the ♀ was there or not - she didn't depend if she was.

July 15 same locality - At 6:45 SE ♂ on nest, SE ♀ feeding at J8 with 1 yng. This one SE yng is now in the light gray back, lighter gray front stage.

Size of eggs in nest K7.17. - in mm.

1 - 35.5 × 51.0	2 - 35.4 × 50.8
3 - 35.0 × 49.8	4 - 34.6 × 50.6.
5 - 34.2 × 51.9	6 - 34.7 × 49.4 mm
7 - 34.4 × 50.6	8 - 34.6 × 50.0

Both parents seemed to be extremely excited about the whole affair. The ♂ especially churned continuously for about 30 seconds when I first got to the nest. The ♀ quickly came over to join him. I noticed that the ♂ growl is somewhat higher pitched than that of the female. The M pair are together but seem contented to forage at K11.

Size of eggs in P16.2 - in mm.

1. 34.6 × 51.0	2. 34.0 × 50.7
3. 33.4 × 49.7	4. 32.9 × 47.9.

The ♂ was on this nest, and defended by some churning, but mostly "pulques" all

Fulica americana

July 15 Lake Temescal, 420 ft., Alameda Co., Calif. — the time I was at the nest. No sound from E♀ or yng. J6.7 is not in as good shape as it might be. The E yng has its white tail coverts and is further along than one SW brood bird. 1 SW yng still has the halo and another seems to not yet have gotten the halo. All three SW young have the white tail coverts. The ♂ was with the yng, the ♀ staying in close to the cat tails.

July 18 Same locality — 8 eggs in nest K7.17 — none pipped, tho #1 should pip today and #2 tomorrow if they are going to hatch. The nest is lined with Potamogeton today and both parents were nearby churning and swanning — 10:40. The ♀ was on the nest. 4 eggs in nest P16.2 — both parents nearby swanning and churning. Also 1 medium gray young, both E yng are solid medium gray, both giving a "pureep" call, not the "pzeep" note of alarm. Nest Q23.10 much in use, Q23.8 probably not in use but in good repair. What must be the platform for the 2nd SW clutch has appeared at H7.23. It is ~~several d~~ quite new, maybe a day old. Both birds nearby pulquing and poonking about it. It is composed mostly of this years dead yellow growth, and was started on a 1½ inch floating pole. It is typical in all respects, having an overall diameter of about 13", an effective width of 6"

Fulica americana

1950

July 18 Lake Temescal, 420 ft., Alameda Co., Calif. — H 7.24 is nest w/ eggs in it, so I doubt its use as an egg nest, probably an all new nest will be built. I 6.18 is being used as a roost by coots, but is not being maintained as a brood nest.

July 19 same locality - Eggs 1, 2, +3 in K 7.17 are not pipped - but warm. ♀ was just off the nest as I came in. The one SE yng is in about the same plumage stage as the 2 E yng, though somewhat young in age. 12:00 both E adults off their nest P 16.2, and at N 12, near the M pair at N 11. Photographed the 2 E yng in color - 4 eggs in nest, warm. The structure at H 7.23 is developing into a nest, probably an egg nest, don't know where their platform is. Also note new materials being added to the H 7.24 nest. One SW yng has white-under-tail coverts, the other doesn't yet. Apparently only 2 yng in the brood now.

Univ. Calif. Campus, Alameda Co., Calif. Bird G-V and P LG examined. New tags, Y-B & B-B on old pins, W-W, G-G & O-O on stainless steel pins. BB on bird T 96, Y-B on bird T 99, W-W on bird T 91, G-G on bird T 00, and O-O on bird T 97. Shield has finally reformed on T 91 (W-W), first Shield growth on G-G. None of these birds showed any evidence of living molt, tho their tails were in various stages of disintegration.

Fulica americana

July 22 Lake Temescal, 420 ft, Alameda Co., Calif. — Nest H7.24 is suffering from lack of attention, H7.23 is slowly developing but not being greatly enlarged, ♀ was in that area. I6.1 & I6.18 are just heaps of cat-tails covered with feces. J6.7 seems to be abandoned, the Ruddy nest at J6.22 is no longer in use. @ 2:30 p.m. SE ♀ off the nest at K7.17. 7 eggs in nest K7.17 - #8 missing, lost not hatched since only 18 days have elapsed since laying. Nest newly built up, both parents in close defending. I doubt if any of these eggs hatch - none pipped. Still 4 eggs in nest P16.2 - ♀ was on the nest, both birds vigorous in defense. Both young in close also - they are starting into their dark gray stage.

— Univ. Calif. Campus, Alameda Co., Calif. — BW & color photos made of the following plates:

Wetmore & Swales.
1931 The Birds of Haiti and the Dominican Republic. USNM Bull. 155 pl. 16 p. 138

Kirkman & Oxon.
The British bird book.
(London, T.C. & E.C. Jack) pl. 135, p. 602.

Howard
1940 O waterhen's worlds. (Cambridge
pl. facing p. 40

Sullivan
1950

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and photo in color only.
Roberts, T.S.
Birds of Minnesota, vol. 1, pl. 28
Witherby et. al.
1947 Handbook of British Birds, pl 14 vol 5. p. 204
National Geo. Soc.
Book of Birds pl. on page 289 vol. 1

Heinroth, O. and M.
1928. Die Vögel Mitteleuropas.
(Berlin, H. Bermühler), vol. 3, 286 p.
pl. 16.

July 26 Lake Temescal, 420 ft.; Alameda Co., Calif.-
1 yng hatched from nest K 7.17- it must have been egg #6. #1, 2, 5 & 7 are still in the nest and warm. Both parents broody and very aggressive in defense. One egg, either #3 or 4 broken in nest since yellow crud was all over a couple of eggs. #7 is not pipped and probably won't hatch. 4 eggs in P16.2- all warm ♂ was on the nest until I was almost at the nest. ♂ was on K7 also.

July 28 Jewel Lake, 510 ft., Contra Costa Co, Calif.-
Watching this pond for one and hour 5 p.m - 6 p.m. and have been able to see the two adults. No immatures, no young. ♀ still has the clear ivory bill but the bill on the male has become somewhat mottled. I wonder if that means he is molting. These demo

July 28 Jewel Lake, 510 ft. Contra Costa Co. Calif. - to be a drake Mallard somewhere about but I have not seen him yet, just keep hearing - and then I saw him, he's in his eclipse plumage.

ly 29 Univ. Calif. Campus, Alameda Co. Calif. - Bird T99 - no molt, bill a little grayish but not bad, legs yellow, under wing coverts, ~~actually~~ all under wing coverts with white tips, all wing feathers present.

Bird T97, the inner 4 8.9.10 & 11 secondaries on the right side have been dropped but no primaries or left side secondaries. White tip on inner most ~~[illegible]~~ ~~primary~~ or 1st primary. Bill grayish legs YG. All under wing coverts white tipped, but only slightly so on primary coverts. Rectrices not molted, but broken off.

Bird T87 - All secondaries & primaries gone on right wing (inclipped) but no coverts gone, no regrowth visible. On left, clipped wing, sheaths are about 5 to 9 mm long on primaries and secondaries are just breaking the surface, greater secondary coverts are dropping out; rectrices all present, bill grayish near tip. All under wing coverts white tipped.

T00 - pin seems to be in OK. Rectrices and under coverts in partial molt, primaries and secondaries on both wings about equal in length, that

July 29 Univ. Calif. Campus Alameda Co., Calif. — is, fully sheathed but about 18 m.m long. Some deformed feather on left side whose primaries were pulled out last fall. Alula fully sheathed, about 14 m.m long, greater primary coverts fully sheathed, about 14 m.m long, greater secondary coverts about the same length the median coverts are being carried out on the tips of the sheath of the new feather, these tips are about 2 m.m long. No molt yet of any lesser coverts. Bill grayish.

T94 — pin is getting a terrific scar growth. No molt of any feathers, bill anterior from nostrils grayish. feet & legs YG.

T96 — no molt of rectrices or of wing feathers. All under coverts white tipped. Legs YG. Bill slightly grayish tipped but only slightly so. This bird, with the old style pin, seems to be satisfactorily tagged. It still has a yellow leg band but it is the only one that has retained one.

T91 — no molt of wing or tail — legs YG, pin seems securely in, all under wing coverts white tipped. This bird had one toe bleeding, bleeding at the nostrils and then it got a wire hooked under its bill so its bleeding there too. It seems to be the hard luck bird, having previously lost its shield and the claw and tip of

Fulica americana

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...y 29 Univ. Calif. Campus, Alameda Co., Calif
~~the toe~~ mid-toe on one foot.

...ly 31 Lake Temescal, 420 ft., Alameda Co., Calif.
Nest K7.17 with one egg #1, new material added on top. 3 yng in SW brood and SW ♀♂ bowing and nibbling. Eggs 1 + 3 in P16.2 pipped, #1 1 pipped, #3 several pipped. Whether or not the SE pair have living yng I don't know.

...ug 2 Univ. Calif. Campus, Alameda Co., Calif
T91 - no molt, still bill breeding white tips to under wing coverts and belly feathers.
T99 - no wing molt, under wing coverts and belly feathers with white tips.
T94 - no wing molt, white tips to under wing coverts and belly. Some bleeding on tip of left wing.
T87 - primaries, fully sheathed, about 13 mm. long., secondaries about the same length. Greater coverts 11 mm long. medium and lesser coverts all intact. Rectrices molt is gradual. Belly and under wing coverts white tipped. Tags about ready to drop off.
T97 - four inner most secondaries gone on right unclipped wing, white tips ~~of~~ to under wing coverts and belly feathers
T96 - no wing molt, under wing coverts with white tips but not so much so on belly.

Fulica americana

Dec 2 Univ. Calif. Campus, Alameda Co. Calif. –
T00 – Primary sheathes about 23 mm, feather tip beyond that about 13 mm. median and lesser upper coverts being carried out on tips of new sheathes, greater under coverts shed then new feathers appear, forement lesser upper coverts still not changing. Tips white on coverts just not on belly.

Dec 9 same locality –
T96 – no molt.
T94 – no molt – big lot of scar tissue coming out one side of brass pin.
T87 – new feathers well along, leading row of lesser under coverts, in fact both upper and under lesser coverts are well along in replacement median coverts have some out coming pin feathers but not many. Primary sheathes about 24 mm and unsheathed tips about same, secondaries and greate coverts about the same. Tags about shed on this bird.
T91 – no molt – steel pin securely in. no more bill bleeding, shield well reformed.
T97 – still the 4 secondaries gone. Im not sure just to what the deal is on those feathers – they may not be in molt as I had previously believed.
T99 – no molt. recently placed brass pin seems to be secure.
T00 – this bird is molting in the order of remiges., greater coverts middle covert and lesser coverts not yet started while all other

pages. 565-569

one photograph

Aug 9 Univ. Calif. Campus, Alameda Co., Calif.—
upper surface coverts are sheathed.
Leading edge coverts generally sheathed
and molt of under coverts seems general.
Lengths, primaries: sheath 26, feather out
of sheath 86 m.; secondaries: sheath 24,
feather out of sheath 40; greater covert: 18
— and 33 mm; middle covert: 12 and
10 mm. Rectrices in irregular or
non-uniform molt, body molt
general with no obvious pattern
apparent.
→ by D.P. Furman — identifications of.
Tick-mite Parasites from nasal area head.
Haemaphysalis (leporis-palustris?)
Speleognathis (idae) sp.? (sterni) Boyd.
others from nasal cavities of Starlings in
east.

Aug 15 Jewel Lake 510 ft., Contra Costa Co., Calif.—
Arrived 9:00 a.m. Apparently just
the two adult coots on the lake.
They are both in the N.W. cove and
may have new young there. Their
second brood seems to have been
completely lost. The adults
seem to be gathering food and taking
it into the cat-tails in the N-N
25 area. I have not seen or heard
any young, however. Found an egg
nest at N 25.25 containing two addled
eggs and the membranes of previously
hatched eggs. I suspect this nest
has hatched with the last week since the
nest is apparently still in use and
no or very little new material has

Aug 15 Jewel Lake, 510 ft., Contra Costa Co., Calif. — Green added since the last egg hatched. The brood nest at N 25.18 seems to still be in use and in good repair. The old nest at N 25.24 is long out of use. 10:30 - the ♂ is feeding one young still covered with colored plumes, hence only 2-2-3 days old. The ♀ is in the nest area but whether or not she has a young I don't know. I'm certain of only 1 yng.

— Lake Temescal, 420 ft., Alameda Co., Calif. - The SE pair have a brood nest at P 7.13 - their most recent yng is not around and only the well developed immature surviving from the 2nd clutch is. That bird seems to be fully tolerated close to the adults and in the core area. Found egg ♂ of the third clutch floating near the new brood nest. Only one yng is surviving in the 2nd brood of the E pair. The P 16.2 nest is in repair and use, the P 15.3 nest is abandoned, a well developed nest is at P 16.4 and a great new structure at P 23.9. Nothing in the S 22 clump. At least one young still seems to be accompanying a SW adult, feeding with it but not necessarily being fed by it. Molting seems to be general in all coots now so the frequent changes are made with the use of wings. 4:40 p.m. - the ♂

Aug 15 Lake Temescal, 420 ft., Alameda Co., Calif. — just charged out to K13 to do a wingless splatter after two birds there then had a short vocal battle with the M pair at J12, and finally retired. There are at least 12 adults but only 4 immatures, the 3 SW and 1 SE. I can't account for either E immatures now a bird is coming S from L35 that may be an E imm. It is an immature so only 1 is not accounted for. The SW family group seems to be sticking together and does not seem to be particularly closely attached to their SW area. Now they are feeding with the flock at JKL-18-19 quite amiably. Only the SE and E birds seem to be strongly on territory. Just now the E♀ came out from P17 to chase the g imm I believe to be an E imm from M18 out to about I19, then she turned back and chased a couple of adults that had barely ventured into her area.

Aug 17 Univ. Calif. Campus, Alameda Co., Calif. — T87 - primaries, secondaries, greater and lesser coverts are nearly fully replaced and grown. Middle coverts are just commencing to be replaced.
T94 - still no molt started. Old type pin nearly shed on this bird. Shield SS.
T91 - no molt - SS pin showing some extruding scar tissue.

Aug 17 Univ. Calif Campus, Alameda Co., Calif. –
T99- no molt- old style pin secure, showing little scar tissue. Shield S.
(9-0)-T-97 - no molt, extending scar tissue from SS pin.
T96- no molt, no scar tissue visible around old style pin.
T00 - shield swollen, SS pin does not seem to be too securely attached, molt proceeding satisfactorily with replacement of all but middle coverts above and all feathers replaced under wing.

Aug 18 Univ. Calif. Campus, Alameda Co., Calif. –
Egg sizes - eggs from 5th clutch of Jewel Lake N pair. #1-33.0 × 50.0 mm. and #2 32.8 × 52.4 mm. Egg B from 2nd SE Lake Temescal nest. 35.7 × 53.0 mm.
Egg #1 from 3rd SE Lake Temescal nest 35.5 × 51.1.

Aug 28 same locality –
T99- no molt. legs mostly yellow, some green in them.
T94- no molt, legs quite yellow but still some green.
T91- no molt, tags secure, as in two above, legs Y6
T97- no further molt, tag secure, legs Y6.
T87- legs Y6, new growth of secondaries complete, primaries still a little sheathed at base, covert molt still proceeding. Tags and pin gone.
T96- tag & pin gone, legs Y6, no molt.

pages 574-575

see photographs.

Aug 28 Univ. Calif. Campus, Alameda Co., Calif. — TOO — growth of all flight feathers completed, still some replacement of coverts. Legs YG, pin & tag secure.
— volumes of eggs — from 5th clutch N pair JL — 1950 — #1 — 29.5 cc, #2 — 29.0 cc. — Egg #1 from third clutch — LT-SE, 1950 — 32.5 cc — Egg B from LT-SE, 1950 second clutch — 34.0 cc. — egg #2 from 5th N clutch contained and embryo, to be worked with later.

Aug 29 Same locality —
no prob. of interstitial cells — Bird 16 — little sign of meiosis in testes — many large gonial cells but showing no activity — shield flat — dated 1-28-50.
Bird 20 — Sperm present but not abundant, little indication of meiosis or meiotic activity — shield greatly enlarged — dated 1-28-50
Interstitial abundant → Bird 25 — sperm present and meiotic figures abundant in some tubules — shield swollen — dated 1-29-50
Bird 26 — few or no sperm present — some little evidence of meiosis — much debris, interstitial cells proliferated into some large groups shield swollen.
Bird 28 — spermatic debris present, some possible meiosis but not abundant. Some large groups of interstitial cells but not as much so as in #26. — shield fairly well swollen, not as much so as #26.

Allison 1950

Aug 29. Univ. Calif. Campus, Alameda Co., Calif.—
dated 1-30-50

Bird 30 - A very great amount of ~~sperm~~ ~~detritus~~ debris present - no meiotic figures apparent - interstitial cells quite abundant - shield enlarged but not greatly enlarged - broadened but not greatly filled out.

Bird 56 - some spermial debris, interstitial cells quite numerous, and prominent, little indication of meiotic activity - shield semi-swollen - only callus is swollen.

Bird 63 - many enlarged follicles, ovary generally active - shield no more than 55. dated 2-2-50

Bird 77 - ovary about same condition as #63 - but some large cells present in #63 are not present here - this shield is flat - having been maintained so by estrogen - dated 3-17-50

Bird 78 - interstitial cells abundant, meiotic figures abundant, but all seem to be prophase or metaphase gonial cells - one group of tids seen and a few possible cytes, no sperm or spermial debris - shield large SS.

Bird 79 - The shield on this bird is a good example of a cast shield. Working from the callus inward are the following layers - The callus itself is composed of a distinct, pigmented stratum corneum. This

17
10
00
17

43
3.3
129
129
141.9

21
3.3
63
63.
69.3

0.069
0.141
0.17
3.23
3.610

0.069
0.17
3.23
3.40

1.7
.33
2.03

20
1.7
147
21
35.7

a non-cellular structure, evidently the keratinized cells of the underlying epithelium. This layer is about 0.069 mm thick. There is a sharp well defined break between the callus and the immediately underly cell layers. No nuclei or nuclear debris is present in the callus, but the immediately underlying layer has active complete nuclei. No stratum lucidum or granulosum is apparent, the epidermis consisting of variously shaped cells of the stratum Malpighii. The outer layers are flattened into biconical cells, but as they progress deeper they are progressively more evenly polyhedral. These cells are connected to one another by intercellular bridges, as typical with epithelial cells of the stratum Malpighii. The cell borders are distinct, transparent, looking like little clear spaces between cells, crossed by the numerous bridges. The stratum germinativum consists of densely packed columnar cells, a layer about 0.035 mm thick. The basal cells in this layer are consistently vacuolated. Dermal papillae containing blood capillaries penetrate the stratum germinativum every 0.050 mm or so. The whole Malpighian layer is about 0.141 mm. thick. The dermis, about 0.17 mm. thick,

26
33
78
78
85.8 - mol.

190
17
133
19
3230

0.049
0.085
1.7
0.33
2.164

3.3
15
33
45
45
49.5

3.3
5
16.5

100
33
330.0

100
17
1.700 des.

is composed of dense fibrous connective tissue. It is well supplied with large blood vessels and towards the posterior end of the shield bundles of smooth muscle become frequent. The subcutaneous layer is in excess of 3.23 mm thick. It is composed of a cartilaginous mass, many nucleated ~~with~~ highly vacuolated. large fibers, supposedly elastic, scattered around, and many smaller strands of fibers scattered throughout. Seems to be no orderly arrangement to this layer. Some bundles of smooth muscle appear here and there. It must be this layer that gives the yellowish tinge apparent on the shields of some birds.

Checking the section anterior and posterior to the callus, two things are noted. First, the stratum corneum is not so sharply defined. In fact nuclei are apparent in cells that have been completely flattened, in contrast to the callus. Also, the small basal vacuolated cells are not present as under the callus. The skin lateral to the shield has a Malpighian layer about 0.016 mm thick.

Bird 80 - No sperm or spermial debris but meiosis frequent, lots of actual gonial & 1st cycle cells. Callus 0.049 mm thick, Malpighian layer 0.085 mm, dermis 1.7 mm, subcutaneous layer about 0.33 mm. - very dense and compact

600
33
1800
1800
1.980.0

2
17
40
.680

4
17
70
.119.0

125
17
875
125
2.125

120
17
840
120
0.204.0

12
68
280

the vacuoles all collapsed. Densely fibrous, nuclei closely packed.

Bird 81 - Ovary seems to be normally active. Dermis heavily vacuolated in its deepest portion, but ~~so~~ becomes less so towards the outer edge, with groups of vacuoles scattered hither and yon.

That seems to be the difference between the swollen and flat shield, the presence or absence of the vacuoles. The swollen shield is spongy, the flat shield dense fibrous and hard.

Bird 82 - Ovary ~~A~~ normally active, a number of unrecognized cells present. Shield swollen, but down from former size. Dense dermis layer about 0.35 mm thick, spongy portion 1.98 mm thick. Spongy layer continues down under white layer - callus forms feather edge over white of bill. Malpighian layer thinner under white layer, also the basal cells under white portion are without vacuoles, ~~at~~ anterior part of shield portion no spongy layer present. White portion does not take stain, ~~not~~ does the callus.

Bird 83 - dense c.t. layer 0.19 ~~0.47~~ mm thick, spongy layer about 2.04 mm thick -.

Bird 84 - dense ct layer 0.680 mm, spongy layer 2.125 m/m thick.

Sept 10 Univ. Calif. Campus, Alameda Co., Calif. -
T00-♀ legs yellow green, Bursa 20mm pin like, ovary with many fairly large follicles, shield SS, looks as if it is coming up. Bird in good shape but not with an excessive amount of fat on it.
T87- legs, YG, ♂, shield 15SS, this shield shows evidence of new growth rings posteriorly. Bursa on this bird is almost as big as any dive seen. 1 thoracic fluke found.
T97- no extensive formation of scar tissue around the ~~pin~~ stainless steel pin on these tags on this bird or on T00 above. Legs YG, shield 8F, no molt on this ~~of~~ T87 above, ♀ 1mm follicles, bursa 12mm.
T94- rebanded 496-71659- tag replaced with stainless steel pin.
T91- rebanded 496-71660, pin secure.
T96- quite a bit of fat on this bird, more so than on others. ♂, with narrow pointed tarsus.
T99- to be released, left with old brass type tags. A green over yellow leg band on one leg, rebanded 496-71658.

Sept 10 Lake Temescal, 420 ft., Alameda Co. Calif.
Three birds released at 6:20 about 5:30 p.m. They immediately swam out to the middle of the lake, staying close together and

Sept. 10 Lake Temescal, 420 ft., Alameda Co., Calif. — were soon intercepted by 2 curious but non aggressive coots. These three remained close together. Once the E pair, accompanied by their 1 yng swam out to attack the 3 newcomers + 2 flock birds when they ventured in to about <16.

Sept 12 Lake Merritt, Oakland, Alameda Co., Calif. — There are quite a few coots here today. There are about 16, mostly with F or SS shields though one or two have S shields. ~~All I have been~~ At least 3 yellow legged adults were seen, two forming one apparently highly territorial pair. All three with swollen shields.

— Lake Temescal, 420 ft., Alameda Co., Calif. — 2 newly tagged Y-B + G-~~[illegible]~~ seen near dam, along with 3 non-tagged birds. All resident pairs apparently on territory. ~~[illegible]~~ SE yng still in home area but other young are acting as flock birds. E yng with a well developed halo, light fronted.

Sept 13 Jewel Lake, 510 ft., Contra Costa Co., Calif. — Although there are many tracks in the pond weed, I was unable to see any coots during the hour I watched the lake. They are probably molting and hence keeping ~~[illegible]~~ hidden in the cat-tails. A dead and a live ♂ Mallard were seen and a Virginia Rail heard.

Bullsin 1950

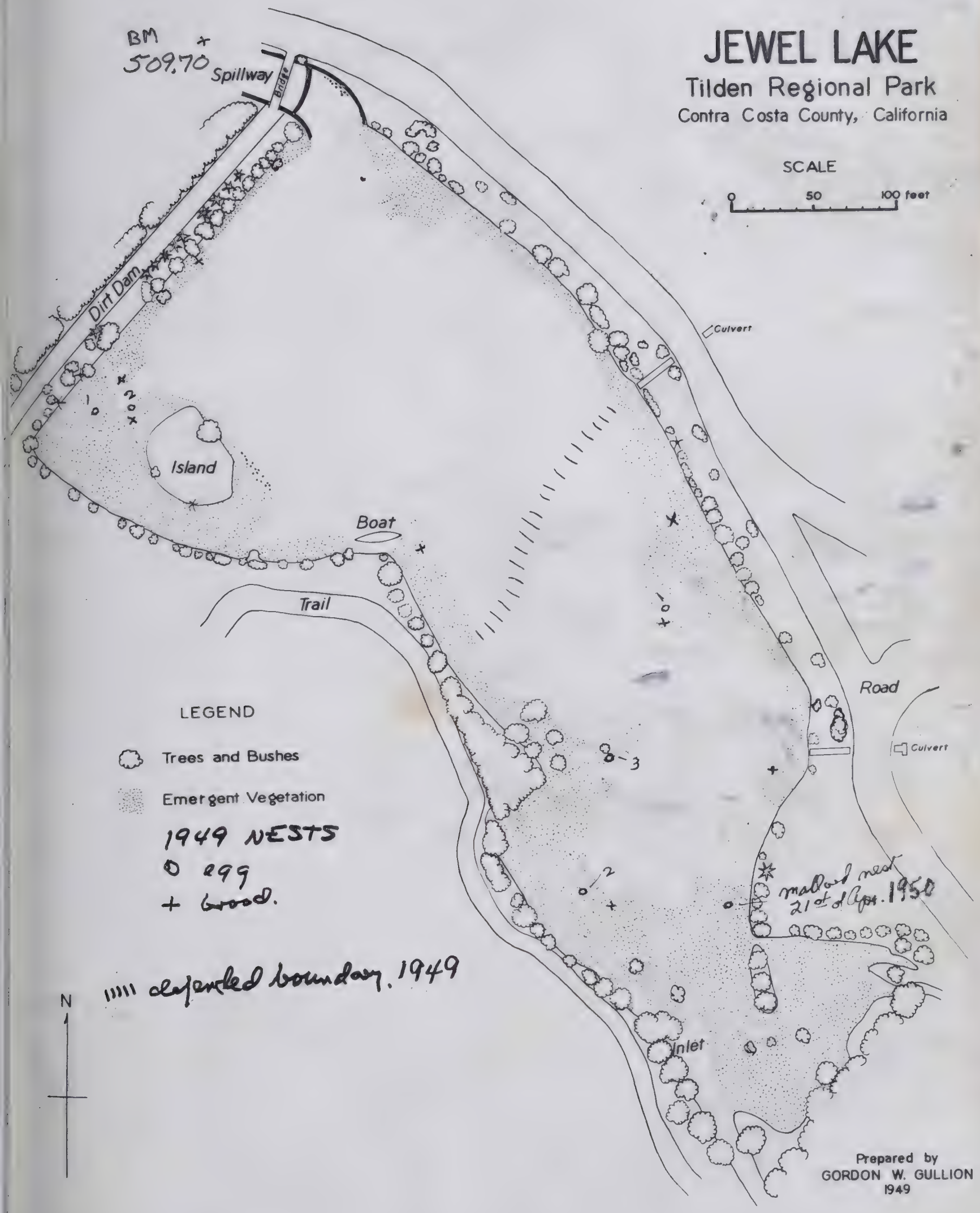
Oct. 10 Honey Lake Refuge, 4000 ft., Lassen Co., Calif. Watched a big flock of Coots one one of the ponds today. About ½ of the birds present were very immature birds, still with mottled bills. No signs of pugnacity or territorial behavior were seen.

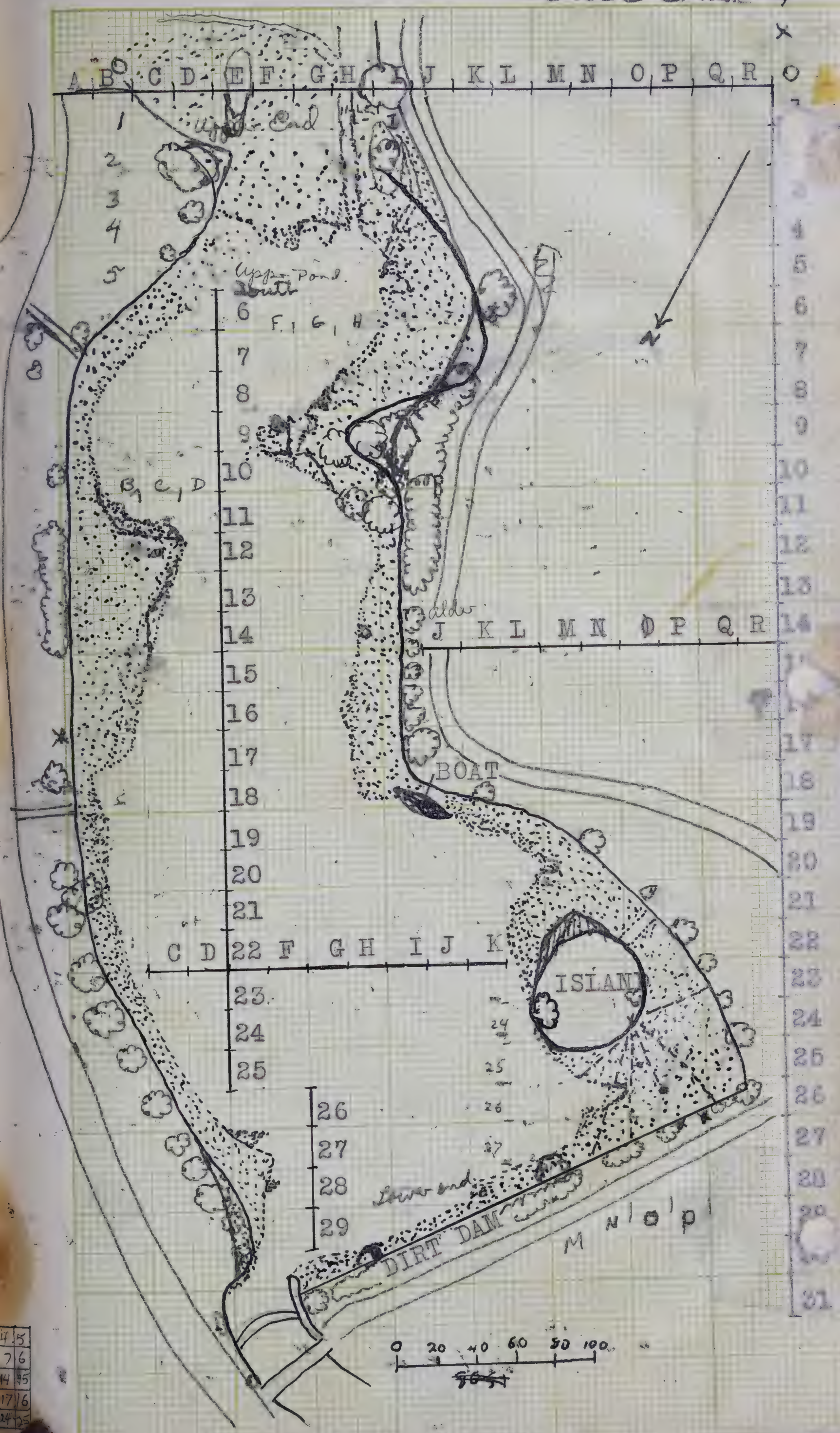
Dec 31 same locality - Coots living on the "Fish Pond" slough south of the headquarters area are paired and on territory. Although there was quite a bit of ice it didn't seem to disturb them.

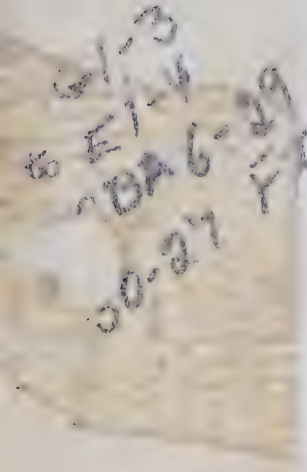
1951

Feb. 11 same locality - Pairing activity is becoming progressively more evident. The larger winter flocks are becoming increasingly smaller and more and more Coots are giving evidence of territorial activity. Especially on the Rano Mule Deer Pond territorial areas seem to be shaping up. Once the Fish Pond there had been a continuous existence of territorial rights throughout the winter. This may also have been true elsewhere, as on the Fleming Reservoir, but less readily observed. Friday, Feb. 9, I heard crowing and cackling from the Fish Pond but I did not determine the circumstances surrounding this

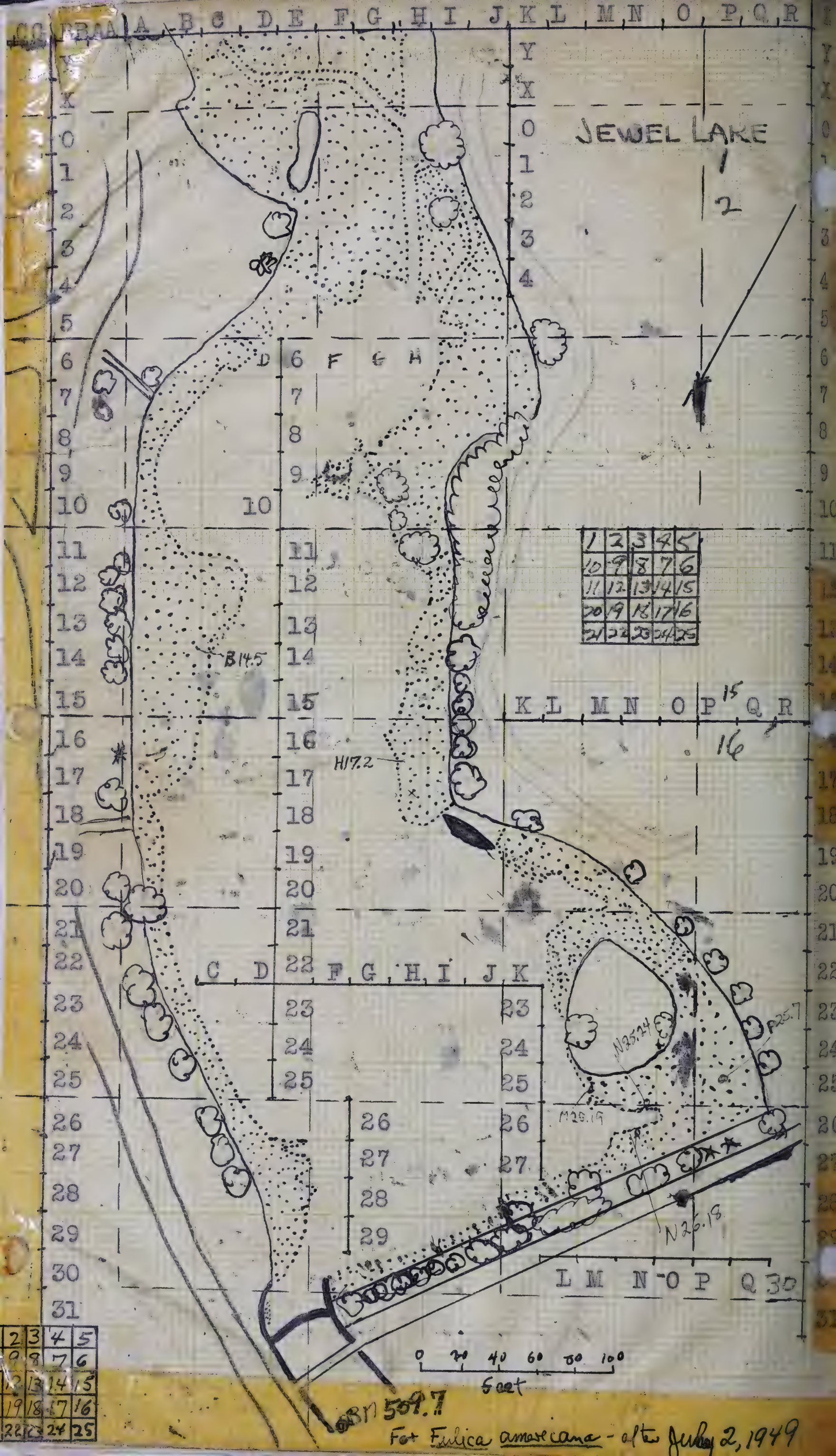
MAPS OF STUDY AREAS


JEWEL LAKE
Tilden Regional Park
Contra Costa County, California
SCALE
0
50
100 feet
BM
509.70
Spillway
Bridge
Dirt Dam
Island
Boat
Trail
Culvert
Road
Culvert
Inlet
LEGEND
Trees and Bushes
Emergent Vegetation
1949 NESTS
o egg
+ brood.
defended boundary. 1949
mallard nest
21st of Apr. 1950
N
Prepared by
GORDON W. GULLION
1949

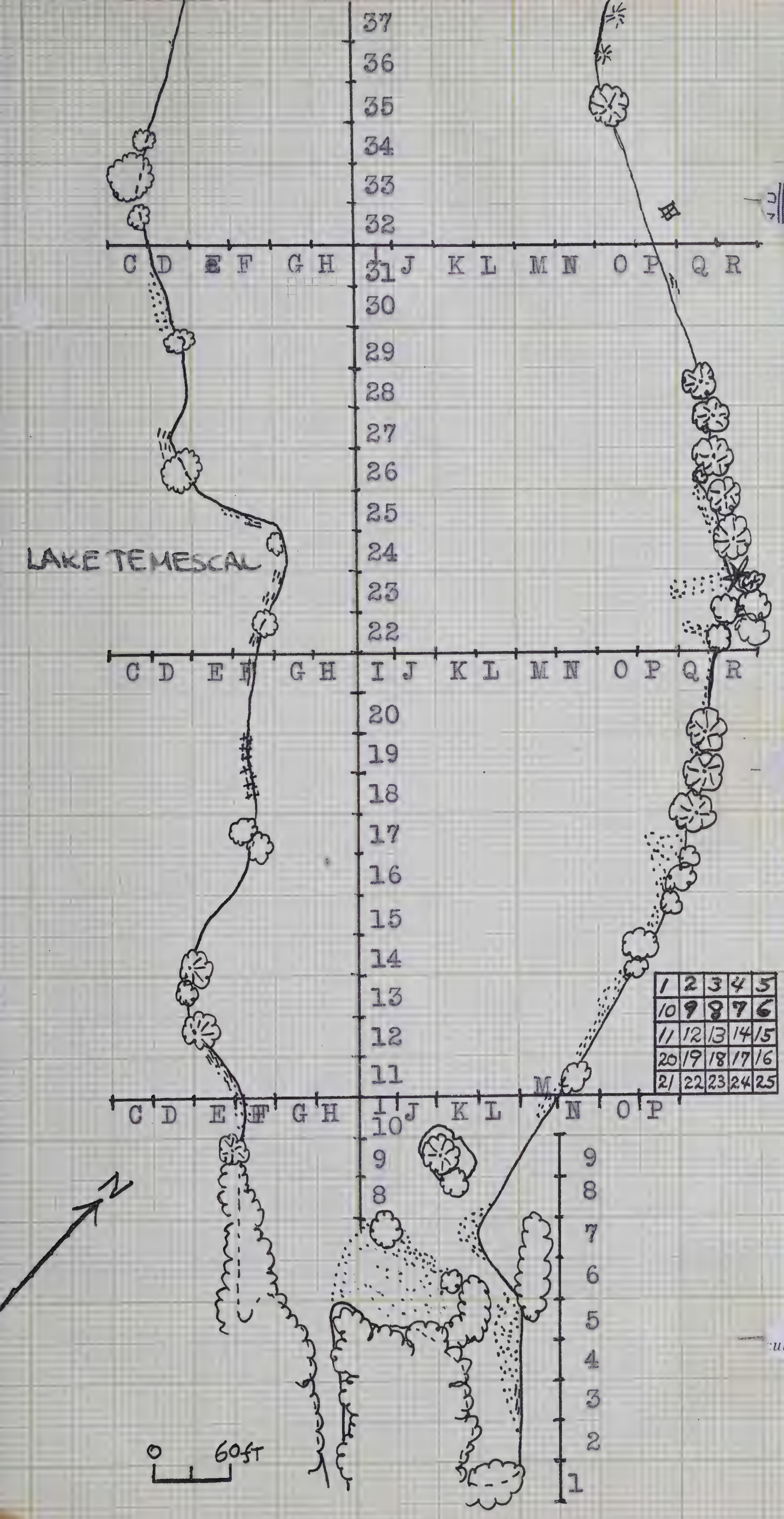

JEWEL LAKE
Upper End
Upper Pond
South
F, G, H
B, C, D
Alder
BOAT
ISLAND
Lower end
DIRT DAM
M N O P
0 20 40 60 80 100

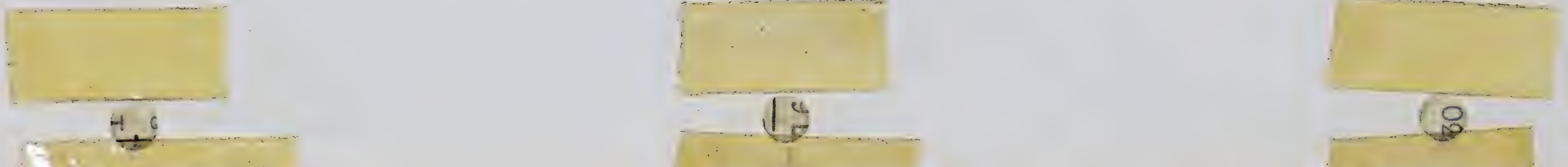


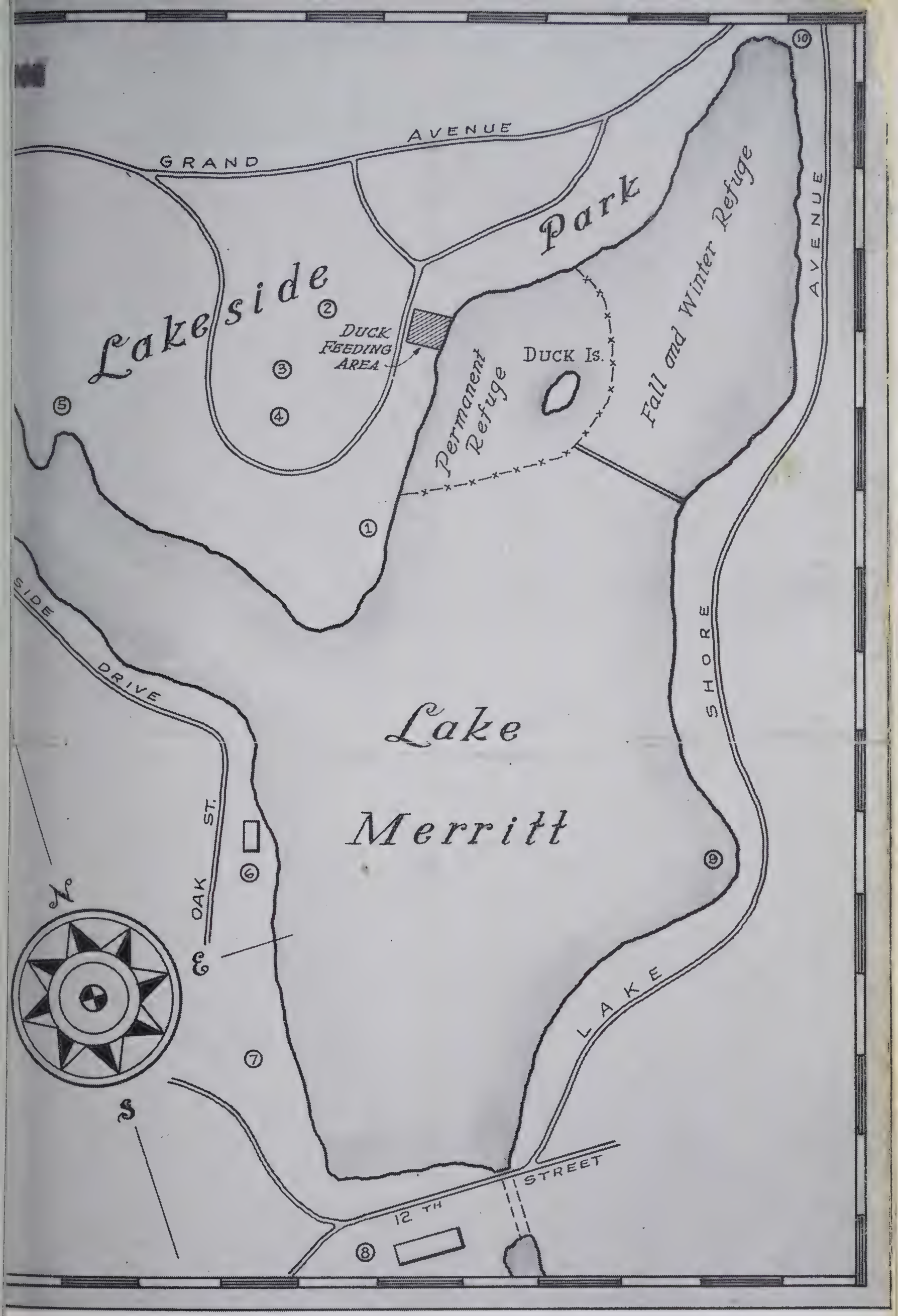
G1-3
to E1-4
BA 6-29
50-27 F to M



For Fulica americana - after July 2, 1949


LAKE TEMESCAL
C D E F G H I J K L M N O P Q R
37 36 35 34 33 32 31 30 29 28 27 26 25 24 23 22 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1
C D E F G H I J K L M N O P Q R
C D E F G H I J K L M N O P
1 2 3 4 5
10 9 8 7 6
11 12 13 14 15
20 19 18 17 16
21 22 23 24 25
N
0 60ft



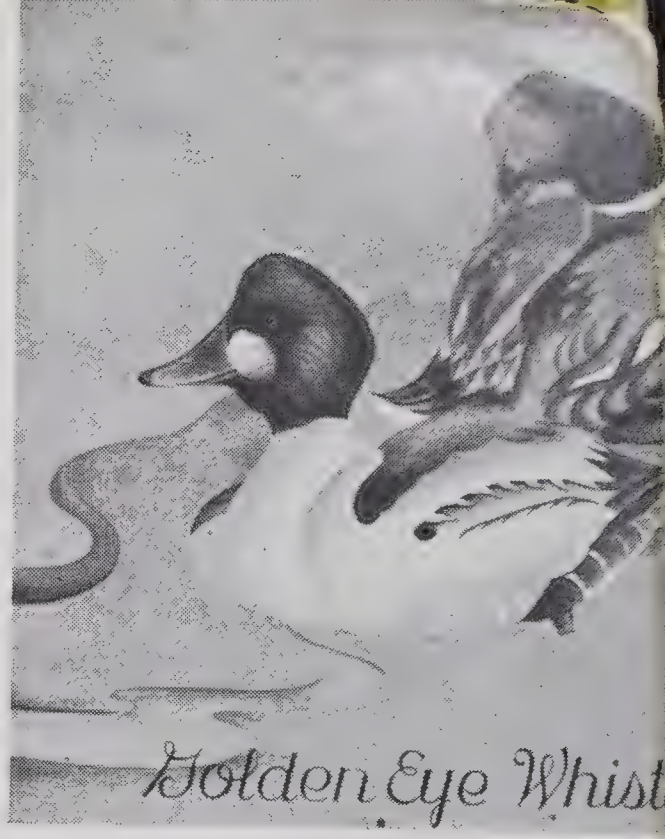


...OF LAKE MERRITT...

Located in the heart of Oakland, California. Particular point of interest, indicated on map, are (1) *Canoe House;* (2) *Bowling Green;* (3) *Putting Green;* (4) *Nursery Gardens;* (5) *Bandstand;* (6) *Main Boat House;* (7) *Oakland Public Museum;* (8) *Oakland Municipal Auditorium;* (9) *Boat Landing;* (10) *Embarcadero.*

Canada Goose or Honker: *Introduced residents, also rare visitant.*

American Golden-Eye; "Whistler": *Common visitant on the deeper water. Front, Male; rear, Female.*



About Lake Merritt

LAKE MERRITT, a natural salt water lake in the heart of the city, covering approximately 155 acres, is controlled by flood gates at the outlet to the Estuary. This body of water was first known as the "North Arm of San Antonio Creek" (the Estuary) by its Spanish discoverers. Later it was called "Lake Peralta" in honor of Oakland's first Spanish settler, and finally "Lake Merritt" for an early mayor of Oakland, Dr. Samuel Merritt. The Embarcadero at the tip of the lake's northeast arm was the loading wharf of early settlers. Lumber from San Antonio Redwoods and other articles of early day commerce, such as meat and hides, were shipped from there to San Francisco and

"winter season" visitants. The first of the Pintails (Sprigs) begin to arrive from the north by late August and continue to come until they outnumber all other species. Their numbers usually thin out by mid-winter, after the hunting season, when they scatter into the interior valleys, but many Pintails, as well as Widgeons and other migrant species, remain as late as April. The Canvasbacks, Scaups and other diving ducks arrive later in the fall, but remain until spring, although their numbers fluctuate from month to month. During their stay at the lake, the Canvasbacks remain in the deeper water and do not come ashore, making special feeding arrangements necessary.

G. W. GULLION

Gray Lodge Refuge,
Butte Co., Calif.

LEGEND

Refuge Boundary
Road
Low Levee
Main Ditch
Area Line

SCHULMEYER FIELD

HUNTER LAKE

HDQ

PORTERS POND

252 LAKE AREA

GOOSE LAKE

CLOYD LAKE

NORTH LOAFING POND

LOAFING POND

MOUSE POND

NEW LAKE

SPRIG LAKE

MIDDLE LAKE

BOATLOCK LAKE

DEEP LAKE

BANDS, BANDING, and MISCELLANEOUS TABULAR DATA

Celluloid tags —
Homing check.

B - Blue.
LB - Lightblue
G - Green
YG - Yellowgreen
Y - Yellow.
O - Orange.
R - Red
Br - Brown
P - Purple

Blue Series

B | Y
B | R
B | YG
B | LB

Orange Series

O | G
O | Br
O | B.

Yellow-green series

YG | O
YG | Br.
YG | G

Yellow series

Y | G
Y | LB
Y | R
Y | Br

Solid

Diamond inner color

Horizontal Bar TOP COLOR

outer color

BOTTOM COLOR

Triangles TOP COLOR

Checks →

Vertical Bar ↑

BOTTOM COLOR

Cross top color

Side color

W inside color

outside color

Diagonal

M inside color

outside color

Inner bar

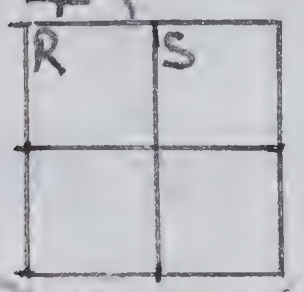
outer color

B R G Y S P

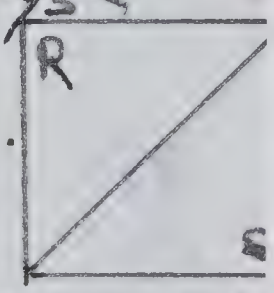
- over -

Solid

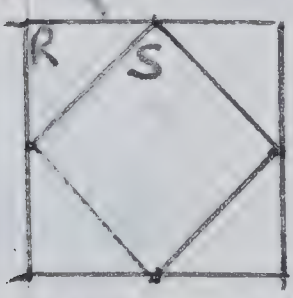
Vertical Bar



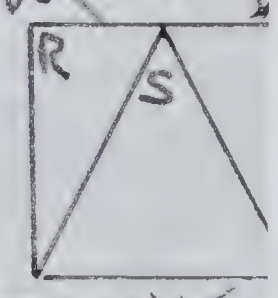
Checks.



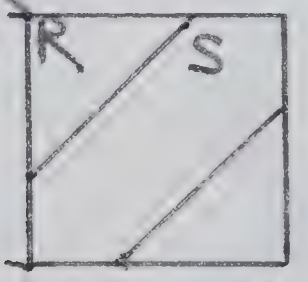
Triangle



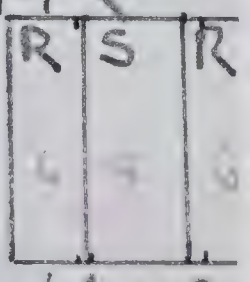
Diamond



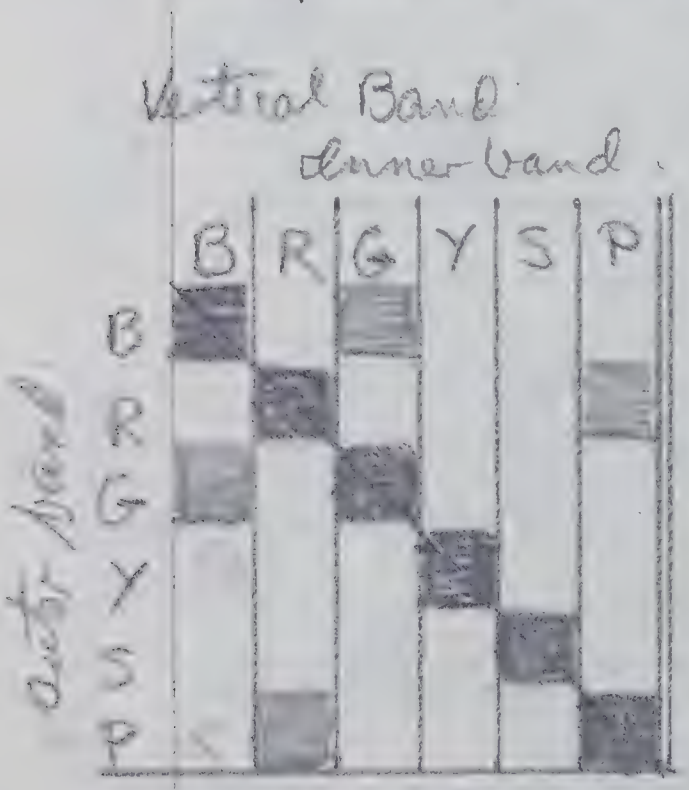
W.



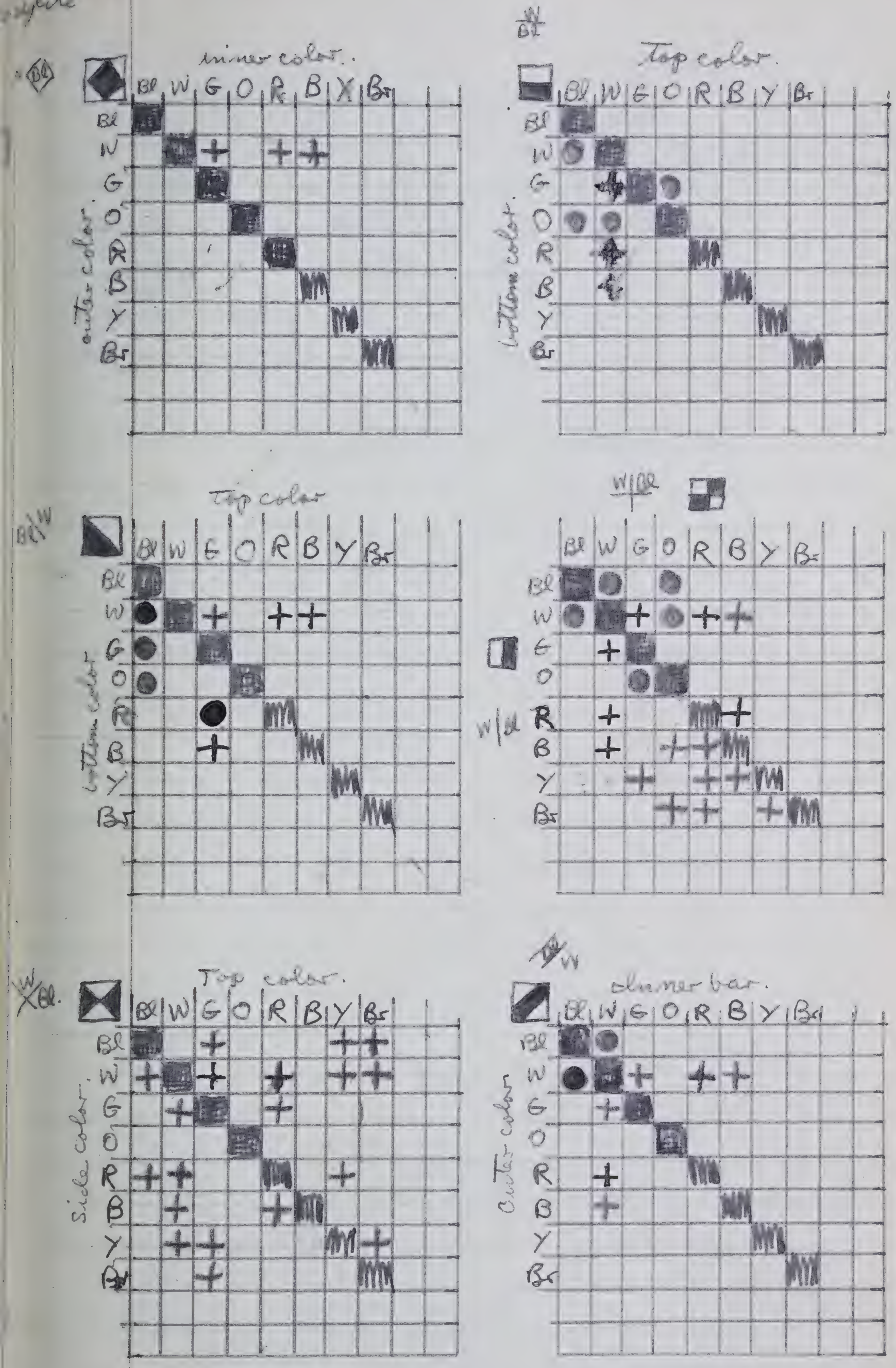
diagonal



Vertical Ba

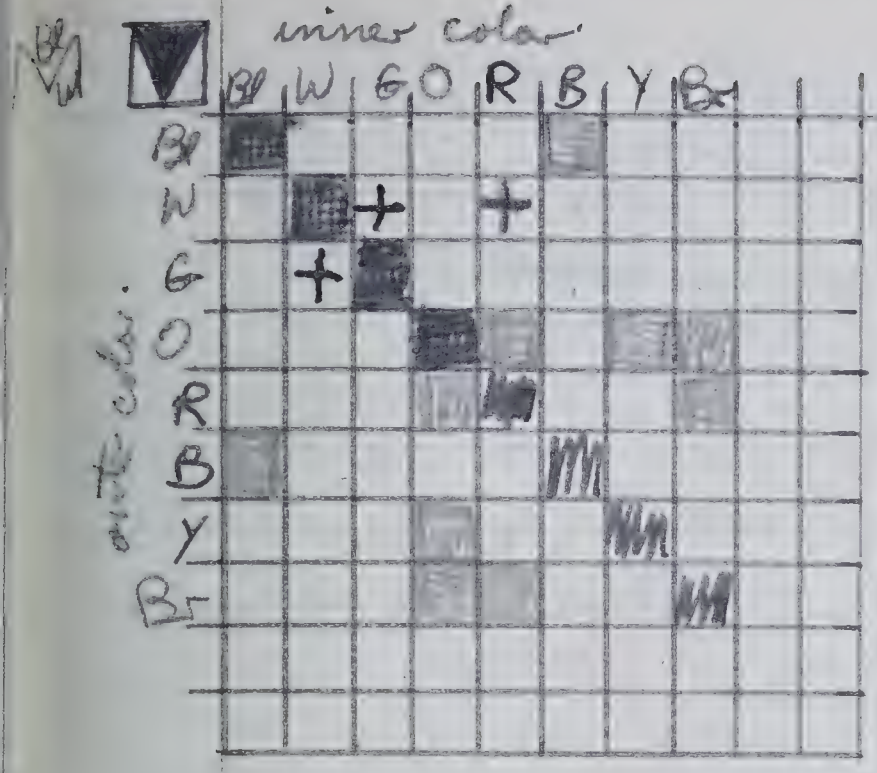


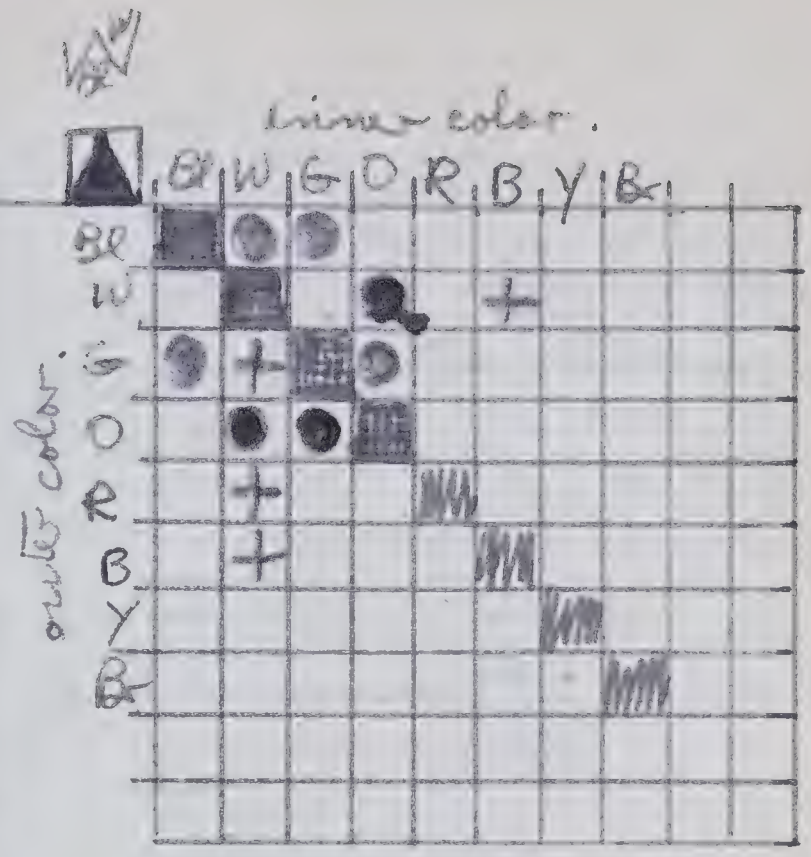
...t Tags.
...ylite

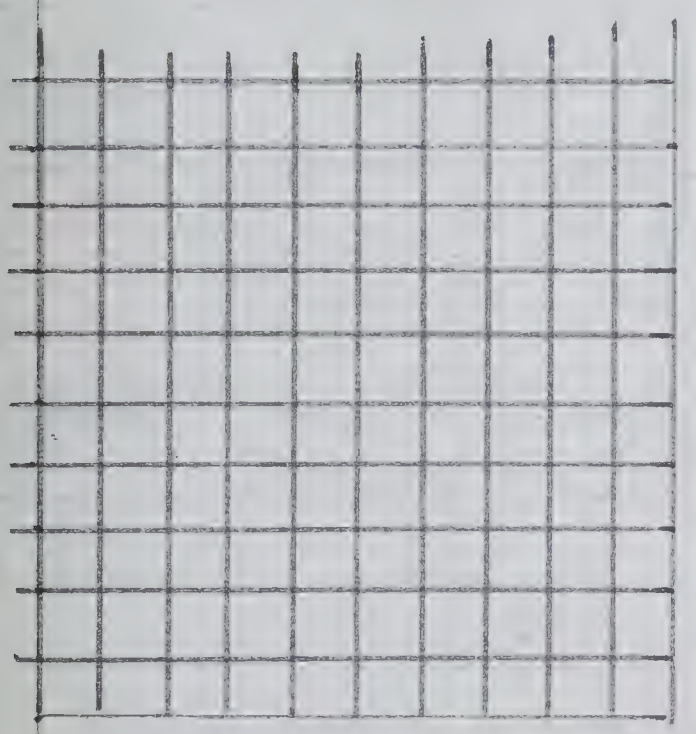


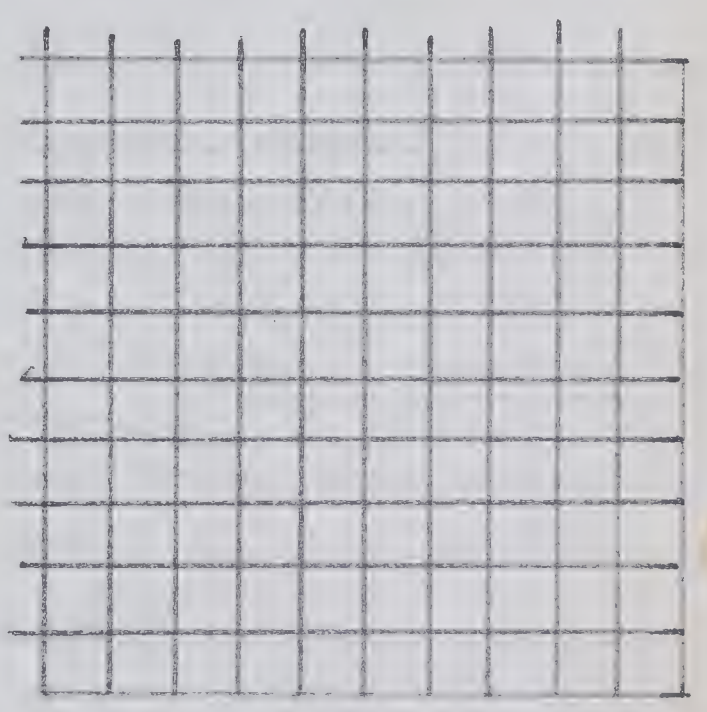
Bl - Black.		R - Red.	+
W - White	+	B - Blue	+
G - Green	+	Y - Yellow	+
O - Orange.		Br - Brown	

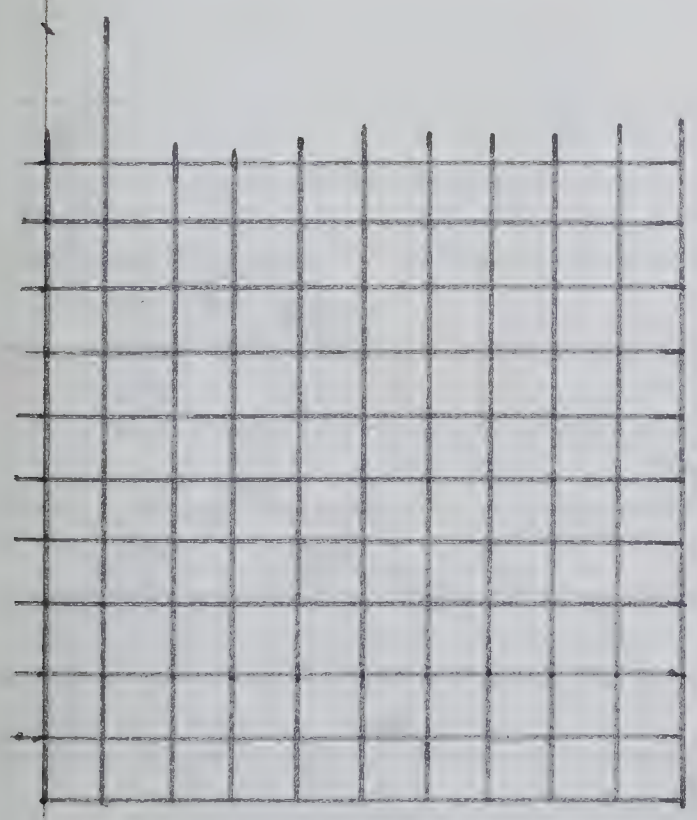
Tags
te

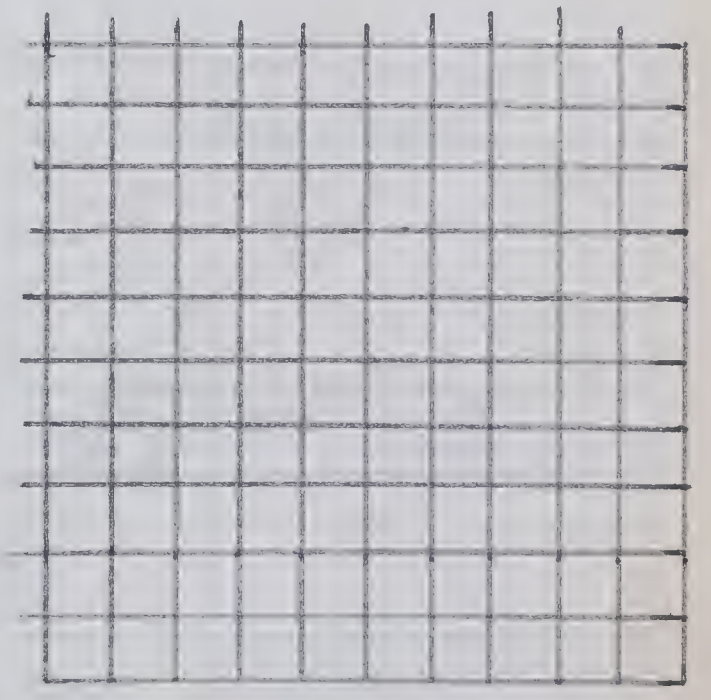












~~also Bl & W vertical & horizontal stripes~~ NG

+ - old style tags used - single wire &/or non-vinylite

O - Vinylite tags made ● - used on coats

Bullseri 1949

Fulica americana

Banding -1-

DATE	RT TAG	BAND	BROOD	SEX	AGE	LOCALITY
July 6	R	45-624038	N		I LOC	Jewel Lake Tilden Park Contra Costa Co., Calif.
"	B	45-624033	N	♀ ?	A	" "
"	S	45-624037	N	♂ ?	A	" "
July 8	G	45-624040	S		I LOC	" "
July 8	Y	45-624036	S		I LOC	" "
July 8	G/S	45-624039	N		I LOC	" "
"	S/B	496-71601	S	♀ ?	A	" "
"	S/R	45-624035	S		I LOC	" "
"	Y/P	45-624032A	S		I LOC	" " Tag removed. Lost
July 6	S/R	45-624034	N		I LOC	" " replaced B/S
July 8	G/S	496-71602	S		I LOC	" "
"	R/B	496-71603	S		I LOC	" "
"	G/B	496-71605	N		I LOC	" "
Aug 5	B/S	496-71608	mN		J LOC	" "
July 28	[redacted]	496-71607	mN		J LOC	" "
July 15	R/S	496-71606	S		I LOC	" "
"	P/B	496-71604	N		I LOC	" "
"	Y/P	45-624032	N		I LOC	" "
Nov 18	S/G	496-71610	—	♀	I	Lake Temescal, Oakland, Alameda Co., Calif.
"	S/G	496-71609	—	♀	I	" "
"	G/S	496-71623	—	♀	I	" "
"	G/S	496-71624	—	♀	I	" "
"	S/R	496-71625	—	♀	I	Aquatic Park, Berkeley Alameda Co., Calif.
"	S/R	496-71626	—	♂	I	" "
"	R/S	496-71627	—	♂	I	" "
"	R/S	496-71628	—	♂	I	" "
Dec 2	W/Bl	496-71629	—	♂	A	Jewel Lake, Tilden Park. Contra Costa Co., Calif.
"	W/Bl	496-71630	—	♂	A	" "
"	Bl/W	496-71631	—	♂	A	" "
Dec 16	W/O	496-716 32	—	♂	A	Lake Temescal, Alameda Co. Calif.
" "	R/G	496-716 33	—	♂	A	" "
Feb 3	G/R	496-716 34	—	♀?	I	" "
Dec 9	G/O	496-71635	—	♀	A	Lake Temescal, Oakland Alameda Co., Calif.

Gullion 1949 — 1/2 — Fulica americana — -1- — 1/2 1/2 1/2 — Banding -1-

TAG	DATE	COLOR & PATTERN OF RIGHT TAG ~~COLOR~~	BAND	BROOD	SEX	AGE	LOCALITY
R	July 6	Red R	45-~~624038~~ 624038	N		1MM	Jewel Lake.
B	July 6	Blue B	45-624033	N	♀♀	ad.	"
S	July 6	Silver S	45-624037	N	♂♂	ad.	"
G	July 8	Green G	45-624040	S		1M	"
P		~~Purple~~					
Y	July 8	Yellow Y	45-624036	S		I	"
G/S	July 8	1/2 Green Y / Silver	45-624039	N		I	"
S/B	July 8	Blue on 1/2 Silver	496-71601 ~~45-624039~~	S	♀?	ad	"
S/R	July 8	1/2 Red on 1/2 Silver	45-624035	S		I	"
Σ	July 8	Yellow over Purple	45-624032	S		I	" DEAD
B/S S/B	July 6	Blue & Silver Checks	45-624034	N		1MM	Jewel Lake.
	July 8	G/S S/G	496-71602	S		I	"
	July 8	R/B B/R	496-71603	S		I	"
		~~P/G~~					
		S/R R/S — replacing B/S					
	July 8	G/B	496-71605	N		I	"
	Aug 5	B/S	496-71608	mN		J	"
		~~G/B~~					
	July 28	S/mBm	496-71607	mN		J	"
		~~T/Y~~					
	July 15	R/S	496-71606	S		I	"
	July 15	P/B	496-71604	N		I	"
	July 15	Y/P	45-624032	N		I	"
		~~G/P~~					
		~~P~~					
		~~S/B m~~	~~496-71609~~				
		~~S/B m~~					
		~~S/S m~~					
		~~B/S m~~	~~496-71610~~				
		~~S/B m~~					

note

note - old style with wire sticking up, new style thus S/B m - with wire folded over -

2-3-2

30
50

57
13

243.9
20.8
223.1

136 | 76

$\begin{array}{r} 412 \\ 20 \\ \hline 392 \end{array}$

$\begin{array}{r} 602 \\ 23 \\ \hline 579 \end{array}$

$\begin{array}{r} 470 \\ 28 \\ \hline 447 \end{array}$

$\begin{array}{r} 454 \\ 22 \\ \hline 432 \end{array}$

$\begin{array}{r} 464 \\ 23 \\ \hline 441 \end{array}$

Gullion
1949
1950

Fulica americana

Banding
-2-

DATE	RT TAG	BAND	BROOD	SEX	AGE	LOCALITY
Feb 3	R/LB	496-71636	—	♂?	I	Lake Temescal
Dec 9	Bl/W	496-71637	—	♀	A	Lake Temescal.
Feb 3	O/R [redacted]	496-71638	—	♀?	I	" "
Dec 16	Bl/W/	496-71639	—	♂	I	Lake Temescal, Alameda Co., Calif.
Jan 20?	Y/P	496-71640	—	♂	I	Univ. Calif. Campus, Alameda Co., Calif.
Mar 19	G/R	496-71641	—	♀?	I	~~Lake Temescal~~ Woodland, Yolo Co., Calif.
Feb 3	R/B	496-71642	—	♀?	I	Lake Temescal
Dec 16	W/Bl	496-71643	—	♀	I	Lake Temescal, Alameda Co., Calif.
Dec 9	G/R	496-71644	—	♂	I	Stow Lake, San Francisco, Calif.
"	B/LG	496-71645	—	♀	I	" "
"	B/PB	496-71646	—	♂	I	" "
Dec 11	Y/Br	496-71647	—	♀	I	Suisun City, Solano Co., Calif.
"	Y/R	496-71648	—	♂	I	" " " "
Feb 3	Bl/Y	496-71649	—	♂?	I	Berkeley Aquatic Park
Dec 16	O/G	496-71650	—	♂	I	Lake Temescal, Alameda Co., Calif.
Feb 3	Y/B	496-71651	—	♂?	I	Berkeley Aquatic Park.
Apr 5	O	496-71652	—	♂?	?	Lake Temescal,
Apr 19	Bl/O	496-71653	—	♀	ad.	Lake Temescal.
Apr 21	W-O/B	496-71654	—	♂	ad	Lake Temescal.
Apr 29	G/Y	496-71655	E	♂	ad	Lake Temescal.
May 24	B-O/G	496-71656	SE	♀	ad.	" "
May 12	O-O/G	496-71657	E	♀	ad	" "
~~Sept 10~~	~~G-~~	~~496-71658~~				
Sept 10	Y-B	496-71658	—	♂	imm.	Lake Temescal
Sept. 10	G-V/Bl/G	496-71659	—	♂	1st yr.	" "
" "	W-W	496-71660	—	♀	imm.	" "

Fulica americana

Sullivan
1949

Jewel Lake, Tilden Park, Contra Costa Co. Calif. –

DATE	BAND No.	WT.	TMT	MID TOE Toe 3	HALLAX Toe 1	Bill S. Shield.
July 8	45-624032A	464-23 441	48	65	20	38
July 6	45-624033	454-22 432	42	60	20	45
July 6	45-624034	470-23 447	48	67	21	40
July 8	35	517-25 492	49	65	19	39
July 8	36	430-20 410	49	66	22	37
July 6	37	677-21 656	54	73	24	48
July 6	38	600-23 579 mm.	54	75 mm.	21 mm	42 mm
July 8	39	404-21 382	48	65	23	39
July 8	40	412-20 392	44	64	18	35
July 8	496-71601	690-21 669	56	69	20	51
July 8	02	509-27 482	50	72	21	39
July 8	03	502-27 475	53	69	19	39
	04					
July 8	05	389-20 369	47	74	22	37
	06					
	07					
	45-624032					

404
21
383

412
20
392

DATE	BAND	RT. TAG	WT gms	TMT mm	MID TOE mm	HALLAX mm	Tib. Shield mm	Fib. Shield mm	Pollex Claw mm	2nd Primary TOTAL	2nd Primary SHG ATH	MID RECTRIX TOTAL ISH	CHECK MOLT	CHECK WHITE TIPS PRIM	BURSA DEPTH	BURSA TYPE		REF NOTE PAGE
July 15	45-62403 2	Y/P	425-21 404	50	65	23	42	10	3	125	–	57	–	P 10				69
July 6	— 33	B	454-22 432	42	60	20	45						–					54
July 6	N 34	R/S	470-23 447	48	67	21	40	7-15 10	7-15 4	7-15 127	–	7-15 50	–	N				54 69
July 8	S 35	S/R	517-25 492	49	65	19	39	7-15 9	7-15 3	85	30	7-15 53-10	–	P				57 69
July 8	S 36	Y	430-20 410	49	66	22	37											
July 6	— 37	S	677-21 656	54	73	24	48						–					55
July 6	N 38	R	602-23 579	54	75	21	42											54
July 8	N 39	G/S	404-21 383	48	65	23	39			121	–		–	P				58
July 8	S 40	G	412-20 392	44	64	18	35		3									57
July 8	496-71601	B/S	690-21 669	50	69	20	51		5	136	–	55	–	N				58
July 8	S 02	G/S	509-27 482	50	72	21	39			94	30	43-7						58
July 8	S 03	R/B	507-27 475	53	69	19	39	7-15 9	3	76	30	7/15 48-8	–	P 10				58 67
July 15	N 04	P/B	538-23 515	50	72	23	44	10	4	134	–	59	–	N				69
July 8	N 05	G/B	389-20 369	47	74	22	37			131	–	57	–	N				58
July 15	S 06	R/S	550-22 528	55	67	21	42	10	3	130	15	58	–	N				69
July [redacted]28	R-1 07	[redacted]	188.5-21.6 166.9	36	54	18	28	6	2	—	–	—	–	–				108
July 5	08	B/S	243.9-20.8 223.1	41	60	19	28	9	2	–	–	—	–	–				118
	~~09 S/B~~																	
	~~TO B/S~~																	

among birds undergoing dissection -
same -
Syrinx
rectum & bursa
The unclipped wing, spread out to lay.
The right leg

1949

DATE	BAND	RT TAB	WT GMS.	TMT mm	TARSUS + MID TOE	MID TOE mm	HALLAX mm.	BILL + SHIELD	SHIELD mm.	Notes & Disposition	INTERNAL SEX	UNDER WING COVERT	EYE	LEG	Bursa mm	°C ANAL TEMP	AGE BY BILL	REF NOTE PAGE
Oct 31	37	RT/O	456	50	131	73	21	40	9	malaria Died 11-26-49	♀	M	I	G		41°	I	133-146
" "	38	W/O	597	53	134	76	21	45	5	Died 12-5-49	♂		I			39.5°		133-150
" "	39	R/W	518	50		77	25	46	11	Killed 12-12-49	♂	M	I	Y/G		40.8°	I	133
" "	40	P	613	54	132	75	24	47	12	Killed 11-23-49	♂		I	G		40.0		133-143
" "	41	S/Y	481	56	137	81	24	44	7	malaria Died 11-26-49	♂	M	I	G		39.8	I	146-
" "	42	G/Y	438	52		80	24	46	11	Killed 11-16-49	♂		I	G	28	41.5 39.5		138-
" "	43	P/G	398	50	125	71	21	41	9	Killed 11-23-49	♂		I	G		39.2		143-
" "	TOO 85	G-G	396	49		72	24	41	10	Killed 9-10-50	♀	M2-12-6-49	I	G	15	39.2		157-170
" "	44	B/S	449	51		71	22	41	9	malaria Died 1-3-50	♀		I	G	35	40.8	I	165-
" "	45	G/S	489	49		70	20	43	11	malaria Died 12-28-49	♀	M	I	G	30	41.2	I	165-
" "	T98 82	P/O	373	51		68	21	39	7 F	killed 6-28-50	♀	M	I	G		41.2		157-166
" "	46	C/B	559	52	122	71	21	45	12	malaria Died 12-8-49	♀		I	G		39.5		
" "	47	G/S	510	52		70	20	42	8	malaria Died 12-28-49	♀	P	I	G	30		I	137-164
" "	48	LB/G	431	53		72	22	43	10 F	malaria killed 1-31-50	♂		I	G	28	40		166-187
" "	49	V/B	492	52	126	73	21	41	10	Drowned 11-25-49	♀		I	G		40.5	I	
" "	50	B/S	587	50	124	71	20	45	8	malaria Died 12-7-49	♀	M	I	G		39.4	I	150-

1949 DATE	BAND		RT TAG	WT GMS	TTT	MID TOE	HALLAX	BILL & SHIELD	SHIELD	POLLEX CLAW	2 MID TRIMARY TOT	SET SW	MID RECTRIX TOT (SA	EYE		BURSA	ANAL TEMP	LOBE BY BILL	REF NOTE PAGE
7-31	malaria	V ×	N/C	456	50	73	21	40	9					I		—	41.9	A	133
		×	S/C	597	53	76	21	45	5					IA	Y	—	39.5	A	133
		V ×	C/S	518	50	77	25	46	11	ethereal				I			40.8	I	133
		×	P	613	54	75	24	47	12	ethereal				IA	G		40	I	133
	malaria	×	S/C	481	56	81	24	44	7	"				I	G		37.8	I	
	killed 11-16-49	×	C/C	438	52	80	24	46	11	"				IA	G		41.5° 39.5	I	
		×	P/G	398	50	71	21	41	9	"				I	Y		39.2	I	
		V ×	P/B	396	49	72	24	41	10	"	PRIMARIES PULLED			I	G		39.2	I	
		V ×	C/S	449	51	71	22	41	9	"				I			40.8	I	
		×	G/S	489	49	70	20	43	11	"				I	Y		41.2°	I	
		×	G/S	373	51	68	21	39	7	"				I			41.2°	I	
	B/S	V ×	G/S	559	52	71	21	45	12	"				IA?			39.5°	I	
		V ×	G/S	510	52	70	20	42	8					A			?	A	137
		V	G/S	431	53	72	22	43	10					I	G		40°	I	
		×	B/S	492	52	73	21	41	10					I	G		40.5°	I	
		×	R/S	587	50	71	20	45	8					I	G		39.4°	A	

1949 DATE	BAND	RT TAG	WT GMS	TMT MM	TOT SHANK + TOE	MID TOE		BILL + SHIELD	BASE OF SHIELD		INTER-NAL SEX	UNDER WING COVERT	EYE	LEG		Bursa mm	AGE BY BILL	REF NOTE PAGE
Nov 18	496-71630	W/Bl	567	59	135	78		50	20	was S/B	♂	P	A	Y			A	145-148
"	~~~~ 51	B/S	533		116			52	25	killed 11-23-49	♀		A	Y	~~killed~~		A	
"	496-71633	R/G	735	62	141	79		54	20	was W/G	♂	P	A	Y		10	A	158-
"	496-71631	Bl/W	593	56	121	70		49	18	was W/R	♀	P	A	Y			A	146-148
"	~~~~ 52	S/R	666		126			55	25	died 12-5-49	♀	M	A	Y	~~died 12-5-49~~		A	149-150
"	496-71632	W/O	713	59	135	78		53	21	was NB/S + III	♂	M1	A	Y B		10	A	157-
"	496-71637	Bl/W	634	59	130	74		50	18	was Y/W	♀	P	A	Y			A	149-
" ~~Dec 2~~	496-71629	O/W	829	60	136	79		56	23	was W/P	♂	P	A	Y B			A	as W/P-172 145-147
"	496-71635	G/O	565	56	126	72		49	19	was B/P	♀	P	A	Y			A	149-151
"	~~~~ 53	R/B	818		132			53	21	died 11-19-49	♂	P	A	Y	~~died 11-19-49~~		A	
Nov 18 T	496-71610	N/G	498		115			41	11			M	A	G			I	142
T	496-71609	S/G	632		118			46	15			P	A	G			A	142
T	496-71623A	N/S	567		130			47	13	Died 12-15-49	♀	P	A	G		30	A	142-156
T	496-71624	G/S	450		122			45	12			P	I	G			I	142
B	496-71625	S/R	582		121			46	14			P	I	G			A	142
B	496-71626	S/R	572		115			42	13			M	A	G			A	142
B	496-71627	R/S	573		123			46	14			P	A	G			A	142
B	496-71628	R/S	570		128			49	13			M	I	G			I	142
	496-71659	G/G	534		131			48	11	released 9/10/50 LT was S/G		M	I	G		22	I	154-157 178-

130 8
131 0

1949 DATE	BAND	RT TAG	WT gms.	TMT mm	TARSUS & MID TOE mm	MID TOE mm	HALLUX mm.	BILL & SHIELD	SHIELD		INT SEX	MOLT W	AGE BY LEG LENGTH	LEG		Bonaio.	Banda mm	AGE BY BILL	REF NOTE PAGE.
Dec 9	496-71639	Bl/W	643	59	137	76		51	16		♂	M1	♂	G			20	I	152-154 167-
"	496-71644	B/R	656	59	135	75		48	12			M2	♂	G				I	151-
"	496-71645	B/LG	447	52	122	70		42	9			M1	♀	G				I	151-
"	496-71646	B/PB	755	61	141	78		51	16			M3	♂	G				I	151-
"	496-71647	Y/G	622	60	130	75		48	15			M1	♀	G				I	153-
"	496-71648	Y/R	601	61	143	80		49	13			M2	♂	G				I	153-
"	496-71658	Y-B	524	65	141	85		43	1F	released 9-10-50 LT		M1	♂	G			30	I	152-157 167
"	496-71650	O/G	640	62	138	79		50	15		♂	M1	♂	YG			30	A?	152-154 157-178
"	496-71643	W/Bl	679	56	130	74		47	14		♀	M2	♀	G				I	152-154
Dec 15	Ⓐ 54	—	—	59	131	76		—	5	killed 12-15-49	♂	M1	♂	G			35	I	156-
Dec 19	—	1	682					—	—	killed 12-19-49	♂			YG	6 mm		30	I	164-
"	—	2	605					—	—	"	♂			YG	4		38	I	164-
"	—	3	689					—	—	"	♂			YG	9		32	I	164-
"	—	4	520					—	—	1 wing missing	♀			YG	—		20	I	164-
"	—	5	536					—	—	killed 12-19-49	♀			YG	—		20	I	164-
"	—	6	505					—	—	" "	♀			YG	—		20	A?	164-
"	—	7	611					—	—	" "	♀			G	—		30	A	164-
"	—	8	533					—	—	" "	♀			G	—		30	I	164-
"	—	9	523					—	—	" "	♀			YG	—		30	A?	164-
"	—	10	740					—	—	" "	♂			YG	7		15	A?	164-

1950

DATE	BAND NO.	TAG	WT gms.		LEG + MID TOE		CLASS	CONDITION		UNK SEX	LEG SEX	UNDER WING COVERT	LEG COLOR		BURSA mm.		PAGE
Jan 28	——	16	546				3	F	killed 1-28-50	♂	♂		G			I	181
"	——	17	404				3	W	"	♀	♀		G			A?	181
"	——	18	506				7	SS	"	♂	♂		G			I	182
"	——	19	458				7	SS	"	♂	♂		G			I	182
"	——	20	514				6	S	"	♂	♂		G			A	182
Jan 29	——	21	470				4	W	killed 1-29-50	♂	♂		G		N	A?	183
"	——	22	354				5	F	"	♀	♀		G		23	I	183
"	——	23	571				3	W	"	♂	♂		G		30	A?	183
"	——	24	454				4	S	"	♀	♂		G		N?	I	183
"	——	25	553				6	S	"	♂	♂		G		N	A	183
"	——	26	463				7	SS	"	♂	♂		G				184
"	——	27	552				5	SS	"	♂	♂		G		N	I?	184
Jan 30	——	28	467				7	SS	killed 1-30-50	♂	♀		XG				186
"	——	29	361				5	SS	"	♀	♀		G		24	I	185
"	——	30	446				~	S	"	♂	♀		XG				185
"	——	31	414				8	F	"	♀	♂		G		17	I	185
"	——	32	459				7	W	"	♂	♂		G		25	A?	186
"	——	33	505				7	SS	"	♂	♂		G		30	I?	
"	——	34	319				8	SS	"	♀	♀		G		P	I?	188
Feb 3	496 7/63[illegible]	R/LB	360		134		10	F			♂	1/2	G		?	I	

	TM	T?
123	55	66

1949 DATE	BAND	RT TAG	WT GMS.	TMT mm	TARSUS & MID TOE mm	MID TOE mm	HALLAX mm.	BILL & SHIELD	CONDI W-urinal F. flat SHIELD			SEX	UNDER WING COVERT	BY LEG	LEG	Donald mm	Bina mm.	Age by Bill	REF NOTE PAGE
Dec 19	—	11	676					—	—		killed 12-19-49	♂			G	7	30	I	164-
"	—	12	645					—	—		" " "	♂			G	9	40	I	164-
"	—	13	714					—	—		" " "	♂			YG	7	28	I	164-
"	—	14	475					—	—		" " "	♀			G	—	30	I	164-
"	—	15	656					—	—		" " "	♂			YG	10	25	I	164-
1950									CLASS	CONDI									
Jan 7	— 55	Bl/W	465 1-31						7	SS	killed 1-31-50	♀	M_1	♀	G		40	I	188-
"	— 56	G/Bl	477 1-31						9	SS	killed 1-31-50	♂	M_1	♀	YG		N?	I	188-
"	496-71654	W-O/B	556		138				3	F	leg ♀ P ♂ P released 4-21-50	♂	M_3	♂	G		20	I?	179-
"	496-71652	O	477		139				1	F	Released 4-5-50	?	M_1	♂	G		15	I	
"	— 76	LB/P	520						3	F	Died 2-15-50	♂	M_3	♂	YG		P	A	167-204
"	— 57	Bl	527 2-1						9	SS	killed 2-1-50	♂	M_3	♀	G		25	A	190-
"	— 77	G/W	387		124				1	F	Died 3-17-50	♀	M_1	♀	G		25	I	235-
"	— 58	Bl/R	488 1-31						7	F	killed 1-31-50	♂	M_2	♂	G		32	I	188-
"	— 59	P/G	494 2-1						3	SS	killed 2-1-50	♂	P	♂	YG		23	A?	191
"	— 60	W/Bl	431 1-31						8	F	killed 1-31-50	♀	M_2	♀	G		32	I	189
"	T85 80	O/G	573		137				6	S	killed 6-28-50	♂	M_2	♂	Y		20	A	
"	— 61	G/P	440 1-31						9	SS	killed 1-31-50	♀	P	♂	YG		32	A?	189
"	T87 86	P/LG	561		135				2	SS	killed 9-10-50	♂	M_2	♂	G		15	I?	
"	T88 81	Y-Y/R	440		126				4	F	killed 6-28-50	♀	M_2	♀	G		30	I	

1950 Date.	Band.	RT TAG	WT gms.				SHIELD CLASS	SHIELD CONDITION			UNDER WING COVERT	SEX BY LEG	LEG		BURSA mm.	AGE BY BILL	
Jan 7	—62	P/Y	391 2-2				7	F	killed 2-2-50	♀	M3	♀	G		30	I	
"	—63	P/P	2-2				7	F	killed 2-2-50	♀		♀	G		22	I	192
"	496-71660	W-W	422		125		5	SS	released 9-10-50 & Tattooed	—	M2	♀	YG		25	A?	177-
"	—64	LG/O	398		124		7	F	killed 2-2-50	♀	M3	♀	YG		20	I	192
"	—65	LG/G	411 1-31				7	SS	killed 1-31-50	♀		♀	YG		N?	I?	187-
"	—66	O/LB	538		134		3	SS	killed 2-2-50	♂	M2	♂	YG		25	I?	187-192-
"	79-T95	W-R	494		125		4	SS	killed 6-20-50	♀	M2	♀	XG		15	I?	179-
"	T96 88	B-B	506		125		2	F	killed 9-10-50	♂	M2	♀	G		28	I	
"	T97 87	O-O	435		121		1	F	killed 9-10-50	♀	M2	♀	G		25	I	
"	—67	O/B	488		141		3	SS	killed 2-1-50	♂	M3	♂	G		10	A?	191-
"	—68	G/O	497		131		4	F	killed 2-2-50	♂	M2	♂	G		28	I	191-
"	—69	O/Bl	535		130		3	SS	killed 2-1-50	♂	P	♂	G		42	I	191
"	—70	Bl/O	541 1-31				3	SS	killed 1-31-50	♂	M1	♂	G			I	189-
"	496-71653	Bl/O	390		122		8	SS	Released 9-19-50	♀	M2	♀	G		22	I	190-
"	—71	G/Bl	333		86		3	F	Died 1-18-50	♂	M1	♂	G		15	I?	172-
"	—72	Bl/W	480 2-1				3	SS	killed 2-1-50	♂	M2	♂	G		28	A?	190-
"	—73	W/Bl	390 2-1				7	SS	killed 2-1-50	♀	M3	♀	YG		22	I	190-
"	—74	R/Br	482		128		1	F	killed 2-1-50	♀	M1	♀	G		35	I	190-
"	—75	Br/LB	505 1-31				9	SS	killed 1-31-50	♂		♂	G		25	I?	189-
Jan 13	496-71640	Y/P	552				2	W	Escaped Jan '50		M2	♂	YG		15	I	167-

7.95 BOULDER 1950

	Band	Rt TAG	WT gram	Tarsus	LEG & MID TOE	MID TOE	SHIELD CLASS	SHIELD COND.		UNT SEX	LEG SEX	UNDER WING COVERT	LEG COLOR		BURS	AGE	REF PAGE
Feb 3	496-71641A	G/R	311		128		5	F	Died		♀	M_2	G		20	I	
"	496-71642	R/B	337		129		7	F			♀	M_3	G		25	I	
"	496-71634	G/R	283		126		8	F			♀	M_3	G		-	I	
"	496-71638	O/R	308		125		8	F			♀	M_2	G			I	
"	496-71649	Bl/Y	425		134		4	SS			♂	M_2	G		25	I?	
"	—	35	311				none		killed 2-3-50	♀	♀		G			I	
"	496-71651	Y/B	461		142		7	SS			♂	M_1	G		90	I?	
"	[illegible]	36	361				8	F	killed 2-3-50	♀	♀	M_1	G		30	I	
Mar 19	496-71641	G/R	—		120		-	S			♀	-	G		-	-	
Mar 24	40-600861	0861	—		128				Died 3-50	♀	♀		Orang.			Ad.	241-
Apr 29	496-71655	G/Y	—		—		9	S	nesting E pair.		♂	by voice	YO			Ad.	
May 24	496-71656	B-O/G	—		124		9	S	nest SE pair		♀	by voice PM	Y			Ad.	
May 12	496-71657	O-O/G	—	55	123	66	9	S	nesting E pair		♀	by voice	Y			Ad.	
		~~B-O/G~~															
June 14	—	78	—							♂	♂		YG			1st yr.	
July 12	—	83	—				7	S		♀			YG		20	"	
July 12	—	84	—				4	S		♂		P.	YG		18	adv.	

TAG		SEX	AGE	DISPOSITION
0-0	B/Y	♀?		
67	O/B	♂		killed 2-1-50
68	G/O	♂		killed 2-2-50
69	O/Bl	♂		killed 2-1-50
70	Bl/O	♂		Killed 1-31-50
653	Bl/O	♀		sexed 2-1-50 - testosterone pellet under skin. estrogen pellets under skin 3-17-50. Released Tamalpais 4/19/50 Died 1-18-50.
71	G/Bl	♂		
72	Bl/W	♂		killed 2-1-50
73	G/Bl	♀		killed 2-1-50
74	R/Br	♀		killed 2-1-50
75	Br/LB	♂		Killed 1-31-50
640	Y/P	♂?		Escaped - Jan. 1950.
636	R/LB			Released Lake Temescal. 2-3-50
641	G/R			" " " "
642	R/B			" " " "
634	G/R			" " " "
638	O/R			" " " "
649	Bl/Y			Released Berkeley Aquatic Park 2-3-50
651	Y/B			" " " " "

Gullion
1949

Fulica americana

ASSIGNED NUMBER	TAG	SEX	AGE	DISPOSITION.
37	Bl/O	♀	I	malaria Died of malaria? 11-26-49
38	W/O	♂	I	Died 12-5-49
39	O/W	♂	I	Died from too much ether 12-12-49
40	P	♂	I	killed 11-23-49 - mold in thoracic air sac.
41	S/Y	♂	I	malaria Died of malaria? 11-26-49.
42	G/Y	♂	I	killed 11-16-49
43	P/G	♂	I	killed 11-23-49 sexed internally satisfactorily.
00-85 G-G	S/B		I	primaries pulled 10-31-49 killed 9/10/50
44	B/S	♀	I	malaria Died 1-3-50.
45	G/S	♀	I	malaria Died 12-28-49
82-T98 P/O	G/S	♀	I	killed 6/28/50
46	C/Bl G/S	♀	I	malaria Died of malaria 12-8-49
47	G/S	♀	I	tried to sex on 11-12-49 but failed sewn up into pen. malaria. Died 12-28-49
48 LB/G	B/S	♂	I	malaria - released from confinement Jan 9, 1950. killed 1-31-50
49	S/B	♀	I	Drowned 11-25-49
50	R/S	♀	I	Malaria Died of malaria 12-7-49
630	W/Bl S/B	♂	A	sexed & sewn up 11-25-49. Released on Jewel Lake tagged W/Bl 12-2-49
51	S/B	♀	A	killed 11-23-49 sexed internally satisfactorily.
633	R/G W/G	♂	A	sexed & sewn up 12-10-49 Released Lake Temescal 12-16-49
631	Bl/W W/R	♀	A	sexed & sewn up 11-25-49 - tagged Bl/W Released on Jewel Lake 12-2-49
52	S/R	♀	A	sexed & sewn up 12-3-49. Died 12-5-49
632	W/O R/S	♂	A	sexed & sewn up 12-10-49 Released Lake Temescal 12-16-49
637	Bl/W Y/W	♀	A	sexed & sewn up 12-3-49 released on Lake Temescal 12-9-49
629	O/W W/P	♂	A	sexed & sewn up 11-25-49 - tagged O/W - killed by Fox? about 1-8-50. Released on Jewel Lake 12-2-49
635	G/O B/P	♀	A	sexed & sewn up 12-3-49 Released on Lake Temescal 12-9-49
53	R/B	♂	A	Died 11-19-49 - very fat.
610	S/G		I	Released on Lake Temescal, 11-18-49
609	S/G		I	" " " " "
623	G/S	♀	I	" " " Died Lake Merritt 12-15-49
624	G/S		I	" " " " "
625	S/R		I	Released on Berkeley Aquatic Park - 11-18-49
626	S/R		I	" " " " " "
627	R/S		I	" " " " " "

Gullion
1949

Fulica americana

	TAG	SEX	AGE	DISPOSITION.
628	R/S		I	Released on Berkeley Aquatic Park 11-18-49
94 659	B/S	♂?	I	Released on Lake Temescal 9/10-50
1R 644	B/R		I	Released on Stow Lake, San Francisco 12-9-49
645	B/LG		I	" " " " "
646	B/PB		I	" " " " "
647	Y/Br.		I	Released at Suisun City, Solano Co., Calif. 12-11-49
648	Y/R		I	" " " " " "
99 658 Y-B	Y/G	♂?		Released Lake Temescal, 9-10-50
650	O/G	♂		sexed & sewn up 12-10-49 - resexed 12-13-49 Released Lake Temescal 12-16-49
643	W/Bl.	♀		sexed & sewn up 12-10-49 resexed 12-13-49 Released Lake Temescal 12-16-49
639	Bl/W	♂		Tried to sex but failed - sewn up 12-10-49 sexed 12-13-49. Released Lake Temescal 12-16-49
55	Bl/W	♀		killed 1-31-50
56	G/Bl	♂		killed 1-31-50
654 W-O/B	G/C	♂	O P S O P	sexed 1-25-50 - testosterone pellet under skin released Lake Temescal. 4-21-50
652 O	Bl/P	♂?		prolactin pellet under skin - 2-8-50 Released Lake testosterone under skin 3-17-50 Temescal 4-5-50
76 LB/P	C/Y	♂		Died 2-15-50
57	Y/Bl	♂		killed 2-1-50
77	C/W	♀		sexed 1-25-50 - estrogen pellet under skin. Died 3-17-50 - too much ether.
58	Bl/R	♂		killed 1-31-50
59	R/G	♂		killed 2-1-50
60	W/Bl	♀		killed 1-31-50
80 - T85	O/G	♂		killed 6-28-50
61	G/P	♀		killed 1-31-50
T87 86 P/LG	[illegible]	♂?		killed 9-10-50
81 79 - T88 - Y - Y/R	Y/R	♀		prolactin pellet under skin 2-8-50 - estrogen pellet. killed 6-28-50
62	P/Y	♀		killed 2-2-50
63	P/Y	♀		killed 2-2-50
T91 #660 W-W	O/Br	♀?		Released 9-10-50 - Lake Temescal.
64	LG/O	♀		killed 2-2-50
65	LG/G	♀		Killed 1-31-50
66	O/LB	♂		killed 2-2-50
79 - T95 W-R	LG/Br	♀		sexed & sewn up 1-25-50 - estrogen Tablet placed under skin. killed 6-20-50.
T96 #88 (G-Y/B) B-B	Y/LB	♂		sexed 1-25-50 - testosterone under skin. killed 9-10-50

T - Temescal.
M - Lake Merritt
J - Jewel.
A - Aquatic Pk.
S - Stow Lake.
F - [illegible]
X - seen T - Taken

No.	TAG	Home LOCATION	Nov. 18, 1949	Nov. 19, 1949	Nov. 24, 1949	Nov. 28, 1949	Dec 2, 1949	Dec 3, 1949	Dec 9, 1949	Dec 11, 1949	Dec 15, 1949	Dec 16, 1949	Dec 17, 1949	Dec 21, 1949	Dec 23, 1949	Dec 26, 1949	Jan 14, 1950	Feb 3, 1950	Feb 6, 1950	Feb 7, 1950
	VISITED →	X	T, A	T, A	T, M	M	J	J, T	T, S M	F	M	T	J	S	T	J	T	T, [illegible]	S, M T,	A
610	S/G	T, M	R^T	X^T	—	X		—	X^M		X^M							X^M	X^M	
609	S/G	T, M	R^T	X^T	X^T	X		—	X^M		X^M							X^M	X^M	
623	G/S	T, M	R^T	X^T	—			—	—		Died at Lake Merritt 12/15/49									
624	G/S	T, M	R^T	X^T	—			—	—									X^M	X^M	
625	S/R	A, M	R^A			X			X^M											
626	S/R	A, M	R^A	X^A		X			X^M		X^T									
627	R/S	A	R^A	X^A																[illegible]
628	R/S	A	R^A	X^A																
629	W/O/W	J					R^J	X^J					X			X	Killed about Jan 8, Jewel L.			
630	W/Bl	J					R^J	X^J												
631	Bl/W	J					R^J	X^J								X				
635	W/O	T							R^T			X^T			X					
633	R/G	T										R^T			X		X	X^T	X^T	
637	Bl/W	T							R^T			X^T			X		X	$?^T$	$?^T$	
644	B/R	S							R^S					X^S					X^S	
645	B/LG	S							R^S					X^S					X^S	
646	B/LB	S							R^S					X^S					X^S	
647	Y/Br	F								R^F										
648	Y/R	F, M								R^F								X^M	X^M	
632	W/O	T										R^T						[illegible]		
639	Bl/W/	T										R^T								
643	W/Bl	T										R^T			X		X	X^T	X^T	
650	O/G	T										R^T			X		X	X^T	X^T	
634	G/R	T																R^T	—	
636	R/LB	T																R^T	—	
638	O/R	T																R^T	—	
641	G/R	T																R^T	—	
642	R/B	T																R^T	—	
649	Rl/Y	A																R^A		—
651	Y/B	A																R^A		—

T-Temescal.
M-Merritt
J-Jewel
A-Aquatic Pk.
S-Stow L.
F-Suisun City
R-released
T-Taken X-seen

		Area of Release	Mar 3, 1950	Mar 10, 1950	Mar 24, 1950	Mar 25, 1950	Mar 26.	Apr 1	Apr 5	Apr 8	Apr 12	Apr 17	Apr 19
	VISITED→		M	T A	M T J A	T	T	T	T	T	T		
10	S/G	T	X^M		X^M								
09	S/G	T	X^M		X^M								
23	G/S	T	← Died Lake Merritt										
24	G/S	T											
25	/S/R	A											
26	S/R	A											
27	R/S	A											
28	R/S	A											
529	O/W	J	← Killed Jewel Lake										
530	W/Bl	J			—								
531	Bl/W	J			—								
535	G/O	T											
533	R/G	T		X^T	X^T		X^T	?	?	X^T	X^T		
537	Bl/W	T			?		?						
544	B/R	S											
545	B/LG	S											
546	B/LB	S											
547	Y/Br	F											
548	Y/R	F			X^M?								
532	W/O	T											
539	Bl/W/	T											
643	W/Bl	T		X^T	X^T		X^T	X^T	?	X^T	X^T		
650	O/G	T		X^T	X^T	X^T	X^T	X^T	?	X^T	X^T		
634	G/R	T											
636	R/LB	T											
638	O/R	T											
641	G/R	T	← Died Lake Temescal										
642	R/O	T											
649	Bl/Y	A											
651	Y/B	A											
652	O	T							R^T	X^T		X^T	
653	Bl/O	T											R^T

Taken seen to tagged Tag.	DATE July 12	July 13	July 14	July 15	July 16	July 19	July 21	July 22	July 25	July 27	July 28	July 29	July 30	July 31	Aug 1	Aug 3	Aug 4	Aug 5	BROOD AGE
R	X	X	X	X	X														IN
B	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	AD N
S	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				AD N
G	X	X	X			X	X	X	X	X	X	X	X						IS
Y	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	IS
G/S	X	X																	IN
B/S																			AD S
S R/R	X	X	X	T	X	X	X	X	X	X	X	X	X	X	X				IS
B/S	X	LOST								REPLACED BY R/S									
G/S	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X		IS
R/B	X	X	X	T	X	X	X	X	X	X	X	X	X	X	X	X	X		IS
G/B	X	X	X	X	X	X	X	X											IN
R/S	replacing B/S			D	X	X	X												IN
Y/P				D	X														IN
P/B				D	X	X	X	X											IN
R/S				D		X	X	X	X	X	X	X	X	X					IS
B/S																		D X	YN

71.25
20.07
51.18

	July 30	July 31	Aug 12, 1949	Sept 16,	Oct 1
S	X	X			
B	X	X	X	X	X
G	X				
Y	X	X			
R/S	X	X			
S/R	X	X			
G/S	X	X			
R/B	X	X			
R					
G/S					
B/S					
G/B					
R/S					
Y/P					
P/B					
~~B~~					
B/S	–	–	–		
~~S/B~~		–			
~~B/S~~					

COURT—	
G/S	X
BB/O	X
S/O	X
~~O/OS/P~~	X
P	X
~~S/Y~~	X
~~G/Y~~	
~~P/G~~	X
~~S/B~~	X
~~B/S~~	X
~~G/S~~	X
~~G/~~	
G/S	X
B/S	X
~~S/B~~	X
R/S	X
~~S/B~~	X
~~B/S~~	X
~~W/G~~	X
~~W/R~~	X
~~S/R~~	X
~~R/S~~	X
~~Y/W~~	X
~~W/B~~	X
~~B/P~~	X
~~R/B~~	
B/S	X
~~S/BO~~	X

GULLION

1949

Fulica Americana — —

Jewel Lake, 510 ft., Contra Costa Co., Calif.

NEST NO. 026.6 ON TERRITORY —

CARRYING MATERIALS — PLATFORM —

FINISHED SHELL — LINED —

INCUBATING Apr. 9 - at least (other)

MATERIALS

c-egg cool
w-egg warm
+-strange egg
nf-not fertile
l-egg lost
b-egg broken
p-pipped
h-hatched

EGG	9	2	73	4	5	86	73	86	19	10		
DATE- laid												
WTS- Apr 9	w	w	w	w	w	w	w	w	w			
Apr 26	h.	h	h.	-P- h.	w	w	w	w	w			
Apr 27					h.	P	P	w	w			
Apr 28 9a.						h	P h	P P h	w P P h			
Apr 29 6p. 10a.												
Apr 30												
Date- hatched	4/24?	4/24?	4/25?	4/26	4/27	4/28	4/28	4/29	4/30			
NSTL MARKED												
" WTS-												

LEFT NEST

REMARKS:

Amo 29 set 7-4-49
N Pt Isabel. 8:30 a.m.

GULLION

1949

Fulica americana — —

July 1 Jewel Lake, Tilden Park, Contra Costa Co. Calif.

NEST NO. N 25.24 ON TERRITORY —

CARRYING MATERIALS + PLATFORM —

FINISHED SHELL — LINED —

INCUBATING (other)

MATERIALS

c-egg cool
w-egg warm
+-strange egg
nf-not fertile
l-egg lost
b-egg broken
p-pipped
h-hatched

EGG	1	2	3	4	5	6	7	8	9	10		
DATE- laid	?6/11	?6/10	?6/9	?6/12	?6/8	2/9						
WTS- July 5	—	—	—	24.91	—	—						
July 1	w	w	w	w	h.	—						
July 2	p	p	h.	w								
July 3 11a.m.	p	p		p								
July 3 3p	p	h.		p								
July 4 10	p.			p								
July 5	h.			p								
July 6	l			h.								
					7/12		?	?	?			
Date- hatched	7/5	7/3	7/2	7/6	?	?7/11						
NSTL MARKED	R3	R2	?	L3	?	?	R1	L1	L2			
" WTS- July 5	17.75	—		Jump			—	—	—			
July 6	—	25.96		19.62			—	—	—			
July 13	—	34.08		—			—	—	—			
July 14	51.18	—		—			—	—	—			
July 22	—	55.89		—			—	—	—			
July 28	—	—		—			166.9	—	—			
Aug 5	—	—		—			—	—	223.1			

LEFT NEST

REMARKS: Apparently L3 died July 6 due to trapping operations.

GULLION

19 49

Fulica Americana — —

Jewel Lake 510 ft., Contra Costa Co. Calif. —

NEST NO. C12.13 ON TERRITORY

CARRYING MATERIALS PLATFORM

FINISHED SHELL LINED

(other) Found. 4/27

INCUBATING

MATERIALS

c-egg cool
w-egg warm
+-strange egg
nf-not fertile
l-egg lost
b-egg broken
p-pipped

EGG	1	2	3	4	5	6	7	8	9	10
DATE- laid										
~~WTS~~ found 4/27	w	w	w	w	w	w	w	w	w	w
4/28	w	w	w	w	w	w	w	w	w	w
4/29	w	w	w	w	w	w	w	w	w	w
5/2	w	w	P	P	T	w	T	T	P	w
5/3	28.9 C	26.4 C	λ	28.3 P		28.2 w			λ	28.1 w
5/5	28.6	26.2				27.0 λ				27.7 P
5/7	28.3 C	26.0 C		deserted						λ?
Date- hatched	1	1	5/3	5/4?	4/30?	5/5	5/1?	5/2?	5/3	5/6?
NSTL MARKED	Metal	Metal	—	—	—	R4	—	—	—	—
" WTS— 5/5						22.4				
~~5/5~~										

LEFT NEST

REMARKS:

GULLION

19 49

Fulica americana — —

Jewel Lake, 570 ft., Contra Costa Co., Calif.

NEST NO. I 5.13 ON TERRITORY

CARRYING MATERIALS PLATFORM

FINISHED SHELL LINED

INCUBATING June 20 at 2 AM (other)

MATERIALS

c-egg cool
w-egg warm
+-strange egg
nf-not fertile
l-egg lost
b-egg broken
p-pipped

EGG	6/15 1	6/16 2	6/17 3	6/18 4	6/19 5	6/20 6	7	8	9	10		
DATE- laid	?	?	?	?	?	?						
WTS- 6/20	w	w	w	w	w	w						
6/21	w	w	w	w	w	w						
6/23	c	c	c	c	c	c						9:30 a.

Date- hatched

NSTL MARKED

" WTS-

LEFT NEST

REMARKS: Roasted June 22 - cold at 9:30 a.m., 6/23

GULLION

19~~79~~

Fulica americana - -

Jewel Lake, 520 ft, Contra Costa Co., Calif.

NEST NO. F9.24 ON TERRITORY

CARRYING MATERIALS

PLATFORM

FINISHED SHELL

LINED

INCUBATING 7/3 at least. (Other)

MATERIALS

c-egg cool
w-egg warm
+-strange egg
nf-not fertile
l-egg lost
b-egg broken
p-pipped

EGG	1	2	3	4	5	6	7	8	9	10		
DATE- laid	~~6/30~~ ?	7/1 ?	7/2 ?	7/3 ?								
WTS- 7/3	w	w	w	w								
7/4	c	c	c	c								11 a.m.
"	31.80	31.76	29.38	30.13								

Date- hatched

NSTL MARKED

" WTS

LEFT NEST

REMARKS: Deserted on July 4- coll at 11 a.m.

GULLION

1950

Fulica americana — —

Jewel Lake 510 ft., Contra Costa Co., Calif.—

NEST NO. P25.7 ON TERRITORY

CARRYING MATERIALS PLATFORM —

FINISHED SHELL — LINED

(other) Destroyed (by coon?) 4/1.

INCUBATING 3/30?

MATERIALS Dried cat-tails blades, few green blades.

c-egg cool
w-egg warm
+-strange egg
nf-not fertile
l-egg lost
b-egg broken
p-pipped

EGG	1	2	3	4	5	6	7	8	9	10
DATE- laid	?3/22	?3/22	?3/22	?3/22	?3/24	?3/24	3/25	3/26	3/27	3/29?
WTS- 3/28	26.7c	—	27.0c	26.4c	25.7c	25.6c	26.0c	—	25.7c	—
~~4/1~~	~~l~~	~~l~~	~~l~~	~~l~~	~~l~~	~~l~~	~~l~~	~~l~~	~~l~~	~~l~~
3/30	w	w	w	w	w	w	w	w	w	w
4/1	l	l	l	l	l	l	l	l	l	l

Date- hatched

NSTL MARKED

" WTS-

LEFT NEST

REMARKS: Raided by raccoon? on night of 3/30 or 3/31.

GULLION

1950

Fulica americana — —

Jewel Lake, 5 Mi. Contra Costa Co., Calif.

NEST NO. M25.19 ON TERRITORY Permanent

CARRYING MATERIALS — PLATFORM —

FINISHED SHELL — LINE —

INCUBATING 4/14 ~~at least~~ (other)

MATERIALS

c-egg cool
w-egg warm
+-strange egg
nf-not fertile
l-egg lost
b-egg broken
p-pipped

EGG	1	2	3	4	5	6	7	8	9	10		page
DATE- laid	4/3	4/8	4/9	4/6	4/4	4/5	4/7					
WTS- 4/14	w	w	w	w	w	w	w					
4/27	w	w	w	w		P	w					
4/29		w	w	w			P					
5/1		w	P	w								
5/3		wc		wc								377
5/5		l		l								386
Date- hatched	4/26?		5/2?		4/26?	4/28	4/30					
NSTL MARKED	—		—		—	—	—					
WTS- ~~4/14~~ 6/10	✓		✓		✓	✓	✓					

LEFT NEST

REMARKS:

GULLION

19 50

Fulica americana — —

Jewel Lake, 510 ft., Contra Costa Co., Calif. —

NEST NO. N25.24 ON TERRITORY Permanent

CARRYING MATERIALS — PLATFORM —

FINISHED SHELL — LINING —

INCUBATING 6/6 ~~at last~~ (other)

MATERIALS: Mostly dead cat-tail leaves but with some green stuff worked in, see Kodachrome.

c-egg cool
w-egg warm
+-strange egg
nf-not fertile
l-egg lost
b-egg broken
p-pipped

EGG	1	2	3	4	5	6	7	8	9	10
DATE- laid	6/1	6/2	6/3	6/4	6/5	6/6				
~~WTS~~- 6/4	w	w	w	w	—	—				
6/5	c	c	c	c	c	—				
6/6	w	w	w	w	w	w				
6/8	l	l	l	l	l	l				

Date- hatched

NSTL MARKED

" WTS—

LEFT NEST

REMARKS: Nest empty at 2:30 p.m. June 8. Some new materials in nest so it doesn't look deserted, can't figure it out exactly.

GULLION

1950

Fulica americana — —

Lake Temescal, 420 ft. Alameda Co, Calif.

NEST NO. P16.2. ON TERRITORY

CARRYING MATERIALS PLATFORM

FINISHED SHELL LINE

INCUBATING 7/11 at last (other)

MATERIALS

c-egg cool
w-egg warm
+-strange egg
nf-not fertile
l-egg lost
b-egg broken
p-pipped

EGG	1	2	3	4	5	6	7	8	9	10		
DATE- ~~laid~~	7/9	7/10	7/11	7/12								
WTS- 7/15	w	w	w	w								
7/19	w	w	w	w								12 m.
7/26	w	w	w	w								
7/31	p'	w	p 3+	w								

Date- hatched

NSTL MARKED

" WTS—

LEFT NEST

REMARKS: Stands that Nothing July 30

GULLION

1950

Fulica americana

Lake Temescal, 420 ft., Alameda Co., Calif

NEST NO. J6.5 ON TERRITORY —

CARRYING MATERIALS — PLATFORM —

FINISHED SHELL March 10 LINED ~~March 10, 1950~~ (other)

INCUBATING 3/29

MATERIALS

c-egg cool
w-egg warm
+-strange egg
nf-not fertile
l-egg lost
b-egg broken
p-pipped

EGG	1	2	3	4	5	6	7	8	9	10		
DATE- laid	?3/22	?3/24	3/25	3/25	3/26	3/27	3/28? or	3/29?				
WTS- 3/29	33.2	34.4	—	—	—	—	31.8	32.8				
4/8	32.2	—	—	32.9	—	—	30.7	31.7				
4/12	—	l	—	—	—	—	—	—				
4/21	w		w	w	w	w	w	—				
4/24	b		w	w	w	b	b					
4/28			w	w	w	l			#6 floating near nest			
5/5	rotten		l	l	w	l	rotten					
5/6					l							
Date- hatched								4/21				
NSTL MARKED								L1				
" WTS-												
LEFT NEST												

REMARKS: L1 apparently died some time after hatching. — See next page for continued record of this nest.

GULLION

19 50

Fulica Americana — —

Lake Temescal, 420 ft., Alameda Co., Calif. —

NEST NO. J6.5 ON TERRITORY

CARRYING MATERIALS — PLATFORM —

FINISHED SHELL — LINED March 10, 1950

INCUBATING 3/29 (other)

MATERIALS

c-egg cool
w-egg warm
+-strange egg
nf-not fertile
l-egg lost
b-egg broken
p-pipped

EGG	A	B	C	D	E	F	G	H	I	J
DATE- laid	?	?	?	?	?	5/6	5/7	5/8	5/9	5/10
WTS- 5/20	w	w	w	w	w	w	w	w	w	w
5/22.	w	w	w	p	w	w	w	w	w	w
5/23	w	w	w	p.	w	w	w	w	w	w
5/24	w	w	w	h	w	w	w	w	w	w
5/26	w	w	w	|	w	w	w	w	w	w
5/27	w	w	w	|	w	w	w	w	w	w
5/29	w	w	w	|	w	w	w	P	w	w
5/31	c	w	c	|	w	w	w	h	P	c
6/2	w	w	w	|	w	w	w	|	h?	w
6/3	w	w	w	|	w	w	w	|	|	w
6/4	w		w	|	w	w	w	|	|	w
6/12	l		l	|	l	l	l	|	|	l
Date- hatched				5/24				5/30?	6/13	
NSTL MARKED				L1				R1	L2	
" WTS-										

Painted red 5/31 renewed 6/4

found dead at Sand Island June 8, 1950

LEFT NEST

REMARKS: Nest renewed 5/31 - this is the same nest as the earlier J6.5.

GULLION

1950

Fulica americana — —

Lake Temescal, +20 ft., Alameda Co., Calif. —

NEST NO. *922.13* ON TERRITORY *Permanent*

CARRYING MATERIALS *?* PLATFORM *? 4/8*

FINISHED SHELL *4/8 14* LINED *?*

INCUBATING *4/19* (other) ~~Before 4/17~~

MATERIALS

c-egg cool
w-egg warm
+-strange egg
nf-not fertile
l-egg lost
b-egg broken
p-pipped

EGG	1	2	3	4	5	6	7	8	9	10		
DATE- laid	4/22	4/12	4/17	4/17	4/21	4/15	4/19					
WTS- 4/22	w	w	w	w	w	w	w	-got to nest first time.				
4/24	w	w	w	w	w	w	w					
5/9	w	w	P	w	w	P	w					
5/9	w	w		P	w		w					
5/10	w	w		?	w		w					
5/10	w	P			w		w					
5/10	~~18.2×~~ 35.0mm	~~18.3×~~ 33.6			~~19.1×~~ 33.4		~~17.6×~~ 34.5					
5/11	P	P			w		P					
5/12	P				w							
5/13	P				P							
	T											
Date- hatched	5/13?	5/11	5/9	5/10	5/14	5/9	5/12 3:40pm					
NSTL MARKED	—	R3	L1	L2	L4	R1	~~L2R2~~					
" WTS-												

LEFT NEST

REMARKS:

GULLION

1950

Fulica americana — —

Lake Temescal 420 ft., Alameda Co., Calif.

NEST NO. I6.1 ON TERRITORY Permanent

CARRYING MATERIALS — PLATFORM 4/12

FINISHED SHELL 4/14 LINED 4/17

INCUBATING 4/19 at least (other) Defense 4/17

MATERIALS

c-egg cool
w-egg warm
+-strange egg
nf-not fertile
l-egg lost
b-egg broken
p-pipped

EGG	1	2	3	4	5	6	7	8	9	10
DATE- laid	4/18?	4/19?	4/20?	4/21?	4/22	4/23?	4/24?	4/25?	4/26?	4/27?
WTS- 4/19	w	w	—	—	—	—	—	—	—	—
4/21	w	w	w	w	—	—	—	—	—	—
4/26	w	w	w	w	w	w	w	w	w.	—
4/28	w	w	w	w	w	w	w	w	w	w
5/11	P	P	w	w	w	w	w	w	w	w
5/12a	P	P	P	w	w	w	w	w	w	w
5/13	P	P	P	P	P	w	w	w	w	w
5/14	I	I	I	I	P	P	w	w	w	w
5/15					I	I	P	w	l	w.
5/16							P	w		w
5/17							I	?	?	?
Date- hatched	5/13	5/13	5/13	5/13	5/15	5/15	5/17	?	?	?
NSTL MARKED	—	—	—	—		L1				
" WTS-										

LEFT NEST

REMARKS: Replay platform Egg 8.

GULLION

1950

Fulica Americana

Jewel Lake, 510 ft., Contra Costa Co., Calif.

NEST NO. H17.2 ON TERRITORY Permanent

CARRYING MATERIALS — PLATFORM —

FINISHED SHELL — LINED (Other) —

INCUBATING 6/18 at last.

MATERIALS

c-egg cool
w-egg warm
+-strange egg
nf-not fertile
l-egg lost
b-egg broken
p-pipped

EGG	1	2	3	4	5	6	7	8	9	10		TIMES.
DATE- laid	6/12			6/13	6/14		6/15					
~~WTS~~ 6/18	w	w	w	w	w	w	w	w				
6/27	w	w	l.	w	w	w	w	w				
7/4	well P.	w		P'	w	w	w	w				2:15 p.m.
7/5	h.	w		P well	P'	w	P'	w				6:42 p.m.
7/7		w		h	h	w	P	w				9:40 a.m.
7/8		w				w	h.	w				9:00 a.m.
7/10		l				l		l				
Date- hatched	7/5			7/6?	7/7?		7/8					
NSTL MARKED	—											
" WTS—												

LEFT NEST

REMARKS:

GULLION

1950

Fulica americana — —

Lake Temescal, 420 ft. Alameda Co. Calif.

NEST NO. K 7.17 ON TERRITORY ~~June 27, 1950~~

CARRYING MATERIALS

FINISHED SHELL PLATFORM

LINED (other)

INCUBATING June 27, 1950

MATERIALS

c-egg cool
w-egg warm
+-strange egg
nf-not fertile
l-egg lost
b-egg broken
p-pipped

EGG	1	2	3	4	5	6	7	8	9	10		
DATE- laid	6/27?	6/28	6/29	6/30	7/1	7/2	7/3	7/4				
WTS- 7/4 2a.m.	w	w	w	w	w	w	w	—				2 a.m.
7/4	w	w	w	w	w	w	w	w.				8 p.m.
7/15	w	w	w	w	w	w	w	w.				6:45 p.
7/19	w	w	w	w	w	w	w	w				12 m.
7/22	w	w	w	w	w	w	w	p.				2:30 p.
7/26	w	w	?	?	w	h	w					
			B									

Date- hatched 7/25-26.

NSTL MARKED

" WTS

LEFT NEST

REMARKS: Should start hatching July 19.

Records of birds released from
GRAY LODGE REFUGE and LAKE MERRITT

G. W. GULLION
1950

(B)

♂ Bird G-Y/B (Y/LB-#T96) - from Gray Lodge.

	Wt	Shield	Bursa	Leg	Page	
1/9	506	2F	28	G	—	
1/25	497	—	—	—	179	Testosterone implant.
1/31	—	- larger than normally seen in the field			187	
—	—				—	
2/2	—	3S	—	G	193	nasty tempered.
2/4	—	—	—	—	196	aggressive - packing sticks
2/11	544	11S	—	—	202	
2/23	—	—	—	—	206	retreating before attacks by others — VG no pellet.
caged.- 3/5	585	11S	22	G	220	temp. 40.5°C.
3/17	510	11S	—	G	235	estrogen pellet implanted.
3/21	—	- seems a little regressed. 236				
4/2	497	3SS	—	—	271	
pool- 4/19	~~431~~ 444	SS	—	—	312	
5/1	—	3 -	23	~~Y~~G Y	368	Shield nearly flat.
5/10	—	7F	—	YG	409	temper mild
5/17	—	F		YG	423	
5/26	—	SS		YG	452	
6/3	—	7F		YG	470	
6/28	—	8+F	15	YG	532	mild temper

Photos - p. 289, 348

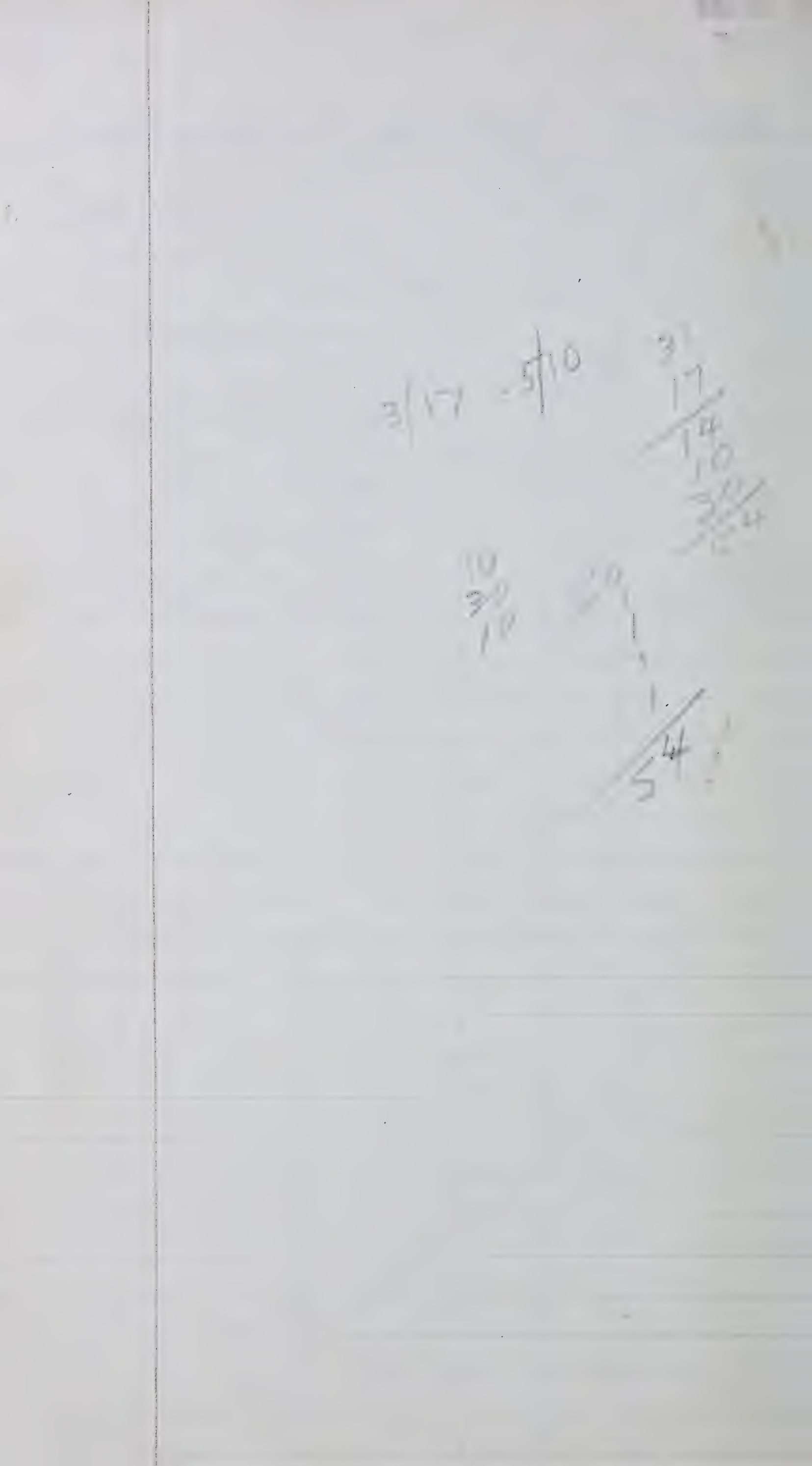
Drawing - p. 343

G. W. GULLION
1950

(B)

♂? Bird VOG (#T85) from Gray Lodge Refuge.

	ht	Shield	Bursa	Leg	Page	
1/9	573	6S	20	Y	—	Taken Gray Lodge.
1/17	—	—	—	—	171	Aggressive.
2/11	557	6S	—	Y	202	
3/13	—	—	—	Y	228	Legs bright yellow
5/1	—	9S	8 ±	Y	369	
5/10	—	12SS		YG	408	decide temp. yellow w/greenish cast
5/17	—	— receding			422	
5/26	—	12SS-R	—	—	457	
6/3	—	14F	—	Y	471	- legs scaling
6/20	—	9F	—	Y	505	
6/28	444	4F	10	Y	532	- killed



G. W. GULLION

1950 - released Lake Temescal. 4/5/50

♂? Bird ♂? O (~~Bl/p~~ - #652) - from Gray Lodge Refuge.

Date	Wt	Shield	Bursa	Leg.	
1/9	477 gm.	1 F	15 mm	G	
2/11	—	1? SS	—	—	
3/17	446	1 SS	—	G	Testosterone pellet. under skin
3/22		6 S 10 mm long 11 wide		G	- bad temper
4/2	495	- shield much lengthened and enlarged but red area had not yet begun to increase by this day. The sequence follows a pattern - first there is a general enlargement of the whole area at the base of the bill, mainly illustrated by a swelling of the white area, producing a concave shape the first week. Then the swelling fills out becoming more and more convex. At this time the red area commences growth posteriorly. With this growth is a general swelling of the skin or thickening of the skin just posterior to the shield, giving a whole new prominence to the shield and top of the head. The growth of the red is in a series of rings, readily evident on the actively growing shield. When this growth ceases, the whole red area thickens, hardens and becomes convex and very prominent, very markedly altering the appearance of the bird.			

4/5 - released.

G. W. GULLION

1950

- released Lake Temescal, 4/21/50.

♂ Bird ♂ W-O/B (G/C - #654) - from Gray Lodge, Jan. 7, 1950

	Date	Wt	Shield	Bursa.	Leg	
	1/9	556	3 F	20 mm.	G	
Testost.	1/25	548 gms.	–	–	–	
	1/31	–	– greatly swollen – larger than normally seen M field			
	2/2	–	10 12×14 mm	–	–	
	2/11	601 gms.	11 S	–	YG	general disaggreement with other birds.
caged.–	3/5	635 gms	11 13×17 mm.	–	–	pellet present but small.
	3/17	599 gms.	shows 3 – 11 S 14×17 mm. no fresh red growth.	–	scaling to yellow.	pellet removed
	4/3	585 gms.	down some. S	–	–	– temper still bad.
	4/19	540 gms.	11 S	–	–	
	4/21	–	–	15 mm.	shank red-orange	– Released.

G. W. GULLION

1950

-released Lake Temescal, 4/19/50 (A)

♀ Bird B/O (#653) - from Gray Lodge Refuge.

	Wt	Shield	Bursa	Leg	Page.	
~~1/9~~	~~390~~				→	
1/9	390	855	22	G	—	
2/1	—	855	—	G	190	testosterone pellet. no brown on upper leg.
2/8	—	—	—	—	199	concerned about carrying cat-tails.
2/11	437	6S	—	G	202	
3/5	425	9S	—	~~G~~	221	testosterone pellet present
3/17	404	9S	—	G	234	-estrogen implanted photo
3/21	—	9S	—	—	236	no regressions.
4/2	415	no change ~~4S~~	—	—	271	pellets not found. -lost.
4/19	—	4SS	20	~~G~~	312	-released-

Photos - p. 271, 346,

Drawing - p. 341

G. W. GULLION

1950

♂? Bird Y/G (T99) - from Lake Merritt.

	Wt	Shield	Broa.	Leg	Page.	
12/9	524	1F	—	G	—	
12/16	—	—	30	—	157	
1/13	469	1F	?	—	167	
1/25	517	4SS	—	YG	178	
2/2	—	10SS	—	—	193	
2/11	540	10SS	—	YG	202	
3/5	599	3SS	—	YG	221	Shield growing fast - see diagram p. 222
3/13	—	—	—	G?	228	
4/8	—	—	—	YG	279	
5/1	—	9S	20±	YG	369	deeper bod.
5/10	—	13S	—	YG	409	
5/17		S+R?		YG	423	
5/26	—	S	Mobbed	YG	452	
6/3	—	10SS		Y	471	
6/20	—	—	—	YG	505	
6/28	—	10SS	16	GY	532	moderate temper

G. W. GULLICH
1950

♂? Bird G-\G\Bl/ (\G\Bl/, \Bl\G/, B|S, #T94) from Lake Merritt.

	Wt	Shield	Bursa	Leg	Page.	
11/18	534	? F	?	G	—	Taken at Lake Merritt.
12/13	501	—	—	G	154	
12/16	—	—	22	—	157	
1/11	—	—	—	—	166	Set up territory defense. paired w/ \w\B
1/25	548	4SS	15	G	178	
2/2	—	9SS	—	—	193	
2/11	553	3SS	—	G	202.	
3/5	585	11S	—	G	221	- legs getting yellow.
4/5	—	—	—	YG	277	
4/19	518	11S	—	YB	312	- brown on thigh.
5/1	—	11S	10mm	YG	369	
5/11	—	3S	—	YG	412	
5/17	—	- regression		to SS		leg scales peeling.
5/26	—	SS	—	YB	452	shield becoming scaly.
6/3		9SS	—	—	471	
6/20	—	9SS	—	YG	505	shield scaly.
7/1	—	9SS	22	YG	535	

G. W. GULLION
1950

(A)

(79)

♀ Bird W-R (LG/Br. #T95) - from Gray Lodge Refuge

	Wt	Shield	Bursa	Lg	Page	
1/9	494	4SS	15	YG	–	
1/25	464	–	–	–	179	estrogen under skin.
1/31	–	– no enlargement			187	
2/2	–	10SS	–	G	193	
2/11	466	10SS	–	YG	202	
caged - 3/5	517	10SS	–	YG	220	- estrogen pellet not present photo p. 269
3/17	486	8+SS		YG	234	- mild tempered - Testosterone under skin.
4/2	503	8+SS	–	–	269	Test. pellet still present.
pool - 4/19	431	- no change.		–	312	
5/1	–	8SS	couldn't be probed	YG	368	
5/10	–	10SS		YG	409	testosterone implant mild tempered
5/17	–	13S	–	YG B	423	
5/26	–	13S		YG B	457	
6/3	–	13S		YG	471	
6/20	454	10S	20	YG	505	killed

G. W. GULLION

1950

(A)

♀? Bird ♀? O|Br (#T91) - from Gray Lodge Refuge.

DATE	WT	SHIELD	BURSA	Leg.	Page	
1/9	422 gm.	5 SS	25 mm.	YG		
1/25	414	—	—	—		
4/3	—	5 SS				
5/1	—	5 S	20+	YG	368	
5/10	—	? S	—	YG	409	shield torn off.
5/17	—	? S	—	Br	423	- shield healing.
5/26	—	? SS	—	YG	452	- " not regrown
6/3	—	? SS	—	YG	470	" " "
7/1	—	5+ SS	24	YG	535	temp bad

G. W. GULLION

1950

(A)

♂?

♂? Bird P/LG (#T87) - from Dray Lodge Refuge.

Date	Wt	Shield	Bursa	Leg.	Page.		
1/9	561	2 SS	15 m.	G			
3/17	481	3 SS	—	—			
5/1	—	3 SS	16 mm.	G^Y	369		
~~4~~/2	489	-	-	-			
5/10	-	3 SS		G^Y	408	tongue bad.	
5/17	—	SS		YG	422	legs scaling.	
5/26	—	S	—	YG^R	452		
6/3	-	1 SS		YG	470	shield scaling	
6/28	—	15 SS	22	YG	532	mostly tongue	

G. W. GULLION
1949
1950

10

(A)

♀? Bird \W\B (\S\B) from Gray Lodge, Oct. 30, 1949

Date	Wt	Shield	Bursa	leg.	Temp.	Page.	
10/31	396 gm	10 mm.	?	G	39.2°C		
12/12	452 gm.	—	—	—			
12/16	—	—	15 mm.	—			
1/16	456 gm.	2 SS	20 mm	G			
1/25	439 gm.	—	—	—			
2/2	—	2 SS	—	—			
2/11	417 gms.	2 SS	—	—			
3/5	482 gm.	3 S	could not be probed.	G	41°C		
5/1	—	3 S	22±	G^Y		369	
5/10	—	3 S		G^Y		408	temper mild
5/17	—	S	knobbed	YG		422	
5/26	—	"	"	YG B		452	
6/3	—	10 S		YG		471	
6/20	—	7 S	"	YG	—	505	
7/1	—	7 SS	20	YG		535	temper mild

G. W. GULLION
1950

(A)

♀? (81)

♀? Bird ~~X~~ Y/R (#T88) from Gray Lodge Refuge.

Date	Wt	Shield	Bursa	Leg.	Page	
1/9	440 gms.	4 F	30 m.	G		
2/11	—	SS	—	—		
4/3	—	6 S	—	—	temper mild.	
5/1	—	6 S	22	G x	369	
5/10	—	12 S	—	YG	408	bad temper estrogen pellet.
5/17	—	9 S	—	YG	423	" "
5/26	—	9 S	—	YG B	457	
6/3	—	9 S	—	YG	470	
6/20	—	4 S	—	YG	505	little sign of regression
6/28	371	4 S	28-30	YG	532	bursa flabby killed

G. W. GULLION
1950

Died 3-17-50.

♀ Bird ♀ (#77) - from Gray Lodge.

Date	wt	Shield	Buroa.	Leg.	
1/9	387	1 F	25	G	
1/25	382	—	—	—	estrogen under skin.
1/31 → 2/2	—	1 F	—	G	— no change in shield.
2/11	378	7 F	—	G	
caged. - 3/5	405	7 F	—	—	estrogen pellet present - temper bad -
3/17	348	8 SS - body.	dead pullet. 26 mm.	G	- estrogen pellet removed.
	— died				

1/31 - no enlargement p. 187

G. W. GULLION
1949
1950

♀?

Bird P/O (GS-#T98) - from Gray Lodge.

	WT gms.	Shield	Bursa mm.	Leg	Page.	
10/31	373	1F	—	G	—	temp. 41.2°C.
12/12	469	—	~~28~~	—	153	
12/16	—	—	28	G	157	
1/13	443	1F	25	—	166	
2/2	—	1SS	—	G	193	
2/11	438	1SS	—	YG	202	
3/5	494	3SS	—	—	221	loss of breast feathers - bad temper.
3/13	—	—	—	Y	228	
3/22	525	3S	—	~~G~~	237	
4/19	452	3S	—	YG	312	
5/1	—	3S	15 mm	YG	368	
5/10	—	3S	—	YG	409	temper not bad.
5/17	—	S	—	YG	422	
5/26	—	S	shredded	YG	457	- fresh shield growth.
6/20	—	S		YG	505	- shield growing
6/28	379	8+SS	23-25	YG	533	pulled

G. W. GULLION
1950

(B)

♀? Bird Br (B|Y - #T97). from Gray Lodge Refuge.

	Wt	Shield	Bursa	Leg	Page.	
1/9	435	1F	25	G	—	
3/17	412	7SS	—	G	234	
pool - 4/3	399	8SS	—	-	274	
5/1	—	7SS	20±	G	369	
5/10	—	7SS	—	G	409	temper not bad
5/17	—	SS	—	G^Y	423	- left leg molting, right still blue green.
5/26	—	[illegible]	—	G^Y	457	- legs scaling
6/3	—	8SS	—	G^Y	470	—
6/20	—	8SS	—	YG	505	
7/1	—	8SS	14	YG	535	temper moderate

Leg coloration

2,981.40*

1 2 1 0 0
1 1 9 0 0
1 2 4.2 0
1 2 6.3 0
1 2 0 0 0
1 2 5.2 0
1 2 2.4 0
1 2 7.6 0
1 2 1.4 0
1 3 2 1.3 0
1 2 3 1.1 0
1 3 2 2 0 0
1 2 4 9 0 0
1 2 9 1.8 0
1 2 1 4.3 0
1 1 2 7.7 0
1 2 5 2.2 0
1 1 9 0 0 0
1 2 8 5.5 0
1 2 1 7.7 0
1 2 2 2.2 0
1 3 0 7.7 0
1 2 5 9 0 0

W. GULLION

♀ G

1a

FEMALES - GREEN TAGS

DATE	NO	TAG	WT	NOT FED	[illegible]	[illegible]	[illegible]	TMT-MT	TIP F² FOR	[illegible]	[illegible]	LARGEST FOLL.
11/25	49	LG(B)	492		—	55.0	72.2	125.9	-	30F		
11/26	37	LG	456		—			130.7	-	24F		1.4
12/7	50	R/G	587		—			122.2	-	24F		1.2
12/8	46	G/B	559		—	51.6	70.5	121.7	-	23F		
12/15	623	G/B	587		—			128.5	-	31M		2.2
12/19	7	—	611	—	—	52.3	67.3	119.0	-	—		
"	8	—	533	—	—	55.7	70.0	125.2	-	—		
"	14	—	475	—	—			112.7	-	—		
12/28	45	G/S	489		—	52.8	69.0	121.3	-	NF		1.9
1/3/60	44	R/B	449		—			124.8	-	—		
1/28	17	—	—	404	7 SS			129.1	42.2	NF		2.0
1/29	22	—	—	354	5 FSS			124.0	36.7	25F		—
"	24	—	—	454	8 FSS	58.4	75.5	132.9	42.4	NF		1.6
1/30	29	—	—	361	5 SSS	54.3	70.2	123.1	39.8	23M		1.6
"	31	—	—	414	8 SSS			132.3	42.9	26M		1.7
"	34	—	—	319	10 SSS			121.4	40.8	NF		1.7
1/31	55	R/B	—	465	7 SSF			127.6	42.5	—		1.7
"	60	R/B	—	431	8 SSF			122.4	42.0	34M		1.1
2/1	74	R/B	482		7 SSF	55.1	70.3	125.2	42.9	33M		2.1
2/2	62	P/B	—	391	7 SFR	52.1	68.5	120.0	42.4	28P		
"	63	P/B	—	?	7 SFR			126.3	42.9	28P		2.1
2/3	35	—	—	311	— SSF			124.2	41.1	NF		1.4
"	36	—	—	361	9 FSF	52.3	68.0	119.9	36.2	25M		
3/17	77	G/O	387		1 FR	53.4	68.6	121.0	40.0	26M		1.6

132.10
124.40
137.10
131 00
131.40
134.10
140.10
132.50
136 00
138.30
131 00
133.10
132.40
139.80
132.40
128.40
131.30
133.30
135 90
125.80
130 90
136.10
129 00
128.70
138.60
126.70
131 90
128.50
3,710.80 *

♂ G

M = 4 mm
P = 2 mm

2a

MALES - GREEN LEG

DATE	NO	TAG	TAG NO	WT	SEX	L	W	TMT-MT	TIP TO TIP OF SHIELD mm	CLASS mm	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100	TETE SIZE
11/16/49	42	G/Y	438					—	—	25M		
11/23	40	P	613					132.1	—	38M		
"	43	P/G	398					124.4	—	26F		
11/26	41	P/O	481					137.1	—	26F		
12/5	36	P/O	547					131.0	—	25C		
12/15	54	—	—					131.4	—	29P		3.0 x 1.5
12/19	11	—	676				59.2	76.±	134.1	—	—	
"	12	—	545						140.1	—	—	
1/18/50	71	G/O	333						132.5	45.0	30F	
1/28	16	—	—	546					136.0	43.5	30F	X
"	18	—	—	506					138.3	45.5	28M	4.0 x 1.8
"	19	—	—	458					131.0	46.0	30M	4.4 x 3.5
"	20	—	—	514			57.1	76.9	133.1	48.5	NF	X
1/29	21	—	—	470					132.4	47.5	NF	5.7 x 2.4
"	23	—	—	571					139.8	49.7	30M	4.0 x 2.6
"	25	—	—	553			56.8	75.7	132.4	46.0	23P	X
"	26	—	—	463			59.0	70.3	128.4	46.1	23M	
"	27	—	—	532					131.3	44.8	21P	4.6 x 2.7
1/30	32	—	—	459			57.8	75.1	133.3	48.0	25P	5.5 x 2.6
"	33	—	—	505					135.9	44.0	30M	
1/31	48	LB/G	431						125.8	43.2	31F	5.0 x 3.0
"	58	LB/A	—	488					130.9	43.3	30M	3.5 x 2.0
"	70	LB/O	—	541			59.4	77.8	136.1	46.4	36M	5.4 x 3.3
"	75	LB/LB	—	505					129.0	47.0	NF	5.0 x 2.3
2/1	57	LB/W	—	527			55.5	74.0	128.7	—	25P	
"	67	O/B	488						138.6	45.2	34P	
"	69	O/LB	535						126.7	45.6	40M	
"	72	LB/W	—	480					131.9	46.6	30F	
2/2	68	G/O	497				56.8	71.6	128.5	44.8	22M	

W. GULLION

♀ YG

3a

FEMALES - YG LEGS

DATE	NO	TAG	WT TAKEN	WT KILLED	Shield	TMT	MT	TMT-MT	TIP TO TOP	[illegible]	1	2	LARGEST FOLL
12/19	4	–	520	–	–			128.0	–	NF	103	125	1.6
"	5	–	536	–	–	54.2	71.6	125.6	–	–	103	125	
"	6	–	505	–	–	53.6	66.6	120.0	–	–	102	123	
"	9	–	523	–	–	55.4	67.0	121.5	–	–	104	123	
12/28	47	G/G	510		–			122.7	–	25P	108	127	1.7
1/31/50	61	G/P	–	440	4 F S			130.0	44.6	NF	105	121	1.2
"	65	LG/G	–	441	7 SS S			124.4	42.2	30M	112	133	1.1
2/1	73	G/G	–	390	7 SS S			121.9	43.3	5C	106	128	
2/2	64	LG/O	398		10 SS S			122.4	42.3	16P	109	130	
7/12	83	–	–	–	–	55.8	71.8	127.0	–	18P	–		2.2
6/20	79	W-R	494		–	54.8	69.0	124.4	–	20P	–		
6/20	82	P/O	379		–	55.0	66.4	–	–	22P	–		
6/20	81	Y-Y/R	440		–	56.1	70.9	127.2	–	–	119	142	
9/10	85	G-G		–	8SS	–	–	129.4	41.2	20P			1.8
9/10	87	O-O		–	8F	–	–	123.6	38.9	12P	–		1.0

YG ♀♀

1280
1256.0
1200
1215.0
1222.7
1300
1244.0
1219
1222.4
1270
1244.0
1227.2

1,495.10 *

W. GULLION

♂ YG

MALES - YG

4a.

DATE	NO	TAT	WT Then	WT Cur				TMT-MT	LR	FR		1° PRIM.	2°	TESTIS SIZE
12/12	39	QW	518		7 SS R			132.5	44.6	35F		111		T: 2 x 2: 2
12/19	1	—	682	—	—			132.6	—	25P				
"	2	—	605	—	—			135.3	—	31F				
"	3	—	589	—	—			131.0	—	30M				8.8 x 2.7
"	10	—	740	—	—			142.1	—	—				
"	13	—	714	—	—			130.5	—	—				
"	15	—	656	—	—			136.4	—	—				
1/30/50	28	—	—	467	10 SW R	56.2	72.5	128.6	46.1	25P		113 114 111 117 109 108 114 123 119 115 113 112 111		X
"	30	—	—	446	4 SS			126.0	44.0	NF		131 134 133 135 128 129 135 144 140 138 136 136 132		
1/31	56	~~SW~~	—	477	9 SS	56.6	71.5	126.9	46.1	NF				
2/1	59	~~QW~~	—	494	15 SS			133.8	47.4	—				
2/2	66	QW LB	538		7 SS			133.0	45.5	30P				
2/15	76	LB P	590		7 SS			130.9	45.6	25M				
6/14	78	—	—	—	3 SS	58.7	76.1	135.0	47.9	18P				7.9 x 3.6
9/10	86			—	155	—	—	136.1	42.8	35M	—			6 x 2.0
"	88			—		—	—	126	42.7	25P	—			5.9 x 1.6

C C C C C C C C C C C C C C C C *
2.5 6.3 C 1.5 4.6 C 0.8 C 0 C 4.6
2 2 5 1 2 C 6 8 6 6 3 3 C 5 4
3 3 3 3 4 3 3 2 2 2 3 3 3 3 5
1 1 1 1 1 1 1 1 1 1 1 1 1 1 8
1,

W. GULLION

♀ Y P - pin shapes F - flabby
NF - more hard M - medium C - closed 5a

FEMALES - YELLOW LEG

DATE	NO	TAG	WT BORN	WT CHECK	[illegible]	THT	HT	THT-HT	TIP TO PUR	[illegible]	[illegible]	[illegible]	LARGEST FOLL
11/23/49	51	B/W	533		11 S K R			115.5	—	26 NF			2.3
12/5	52	B/W	666		—			124.9	—	5 C	107	109	
3/24	0861	—	—	—	—			125.7	48.1	NF	129	133	1.8
	631	B/W	593										
	637	Bl/W	634										
	635	G/W	565										

Y ♀♀

115.50
124.90
125.70

Tot - 366.10 *

Total ♀♀

G - 2,981.40
YG - 1,495.10
Y - 366.10

Tot. 4,842.60 *

NO	DATE KILLED	SEX COLOR	BURR (SPECIFY) SIZE

♂ Y

MALES - YELLOW LEGS

DATE	NO	TAG	WT [illegible]	WT [illegible]	[illegible]	THT	MT	THT-MT	[illegible]	BODY	2 Pri.	TESTIS SIZE
11/19/49	59	[illegible]	818		—	56.1	735	131.0	—	N F	123 / 142	—
5/28/50	80	VoY	573		—	61.5	72.5	134.2	—	8 [illegible]		9.1 x 3.2
7/12/50	84	-	-	—	—	58.3	73.6	130.8	—	11 F	119 / 142	7.8 x 3.5

DATE	NO	TAG	WT
18-49	630	W/Bl B	567
	633	R	735
	632	W R	713
	629	O W	829

yellow legged ♂♂

1 3 1 0 0
1 3 4.2 0
1 3 0.8 0

Tot - 3 9 6 0 0 *

G - 3,7 1 0.8 0
xG - 1,8 5 4.6 0
Y - 3 9 6 0 0

Total 5,9 6 1.4 0 *

NO.	TAGS	T. NOS.	PAGE
1			4a
2			4a
3			4a
4			3a
5			3a
6			3a
7			1a
8			1a
9			3a
10			4a
11			2a
12			2a
13			4a
14			1a
15			4a
16			2a
17			1a
18			2a
19			2a
20			2a
21			2a
22			1a
23			2a
24			1a
25			2a
26			2a
27			2a
28			4a
29			1a
30			4a
31			1a
32			2a
33			2a.

NO	TAGS		T. NOS.	PAGE
34	———	✓	—	1a
35	———	✓	—	1a
36	———	✓	—	1a
37	Bl/O			1a
38	W/O			2a
39	O/W			4a
40	P			2a
41	S/[illegible]			2a
42	[illegible]			2a
43	[illegible]			2a
44	B/S			1a
45	G/S			1a
46	G/S, C/Bl			1a
47	G S			3a
48	G S, LB/G	✓		2a
49	S B			1a
50	R S			1a
51	B S			5a
52	S R			5a
53	R/B		—	6a
54	[illegible] (A)		—	2a
55	[illegible] W	✓		1a
56	[illegible]	✓		4a
57	[illegible]	✓		2a
58	[illegible] R	✓		2a
59	[illegible] G	✓		4a
60	W [illegible]	✓		1a
61	[illegible] P	✓		3a
62	P/Y	✓		1a
63	[illegible] Y	✓		1a
64	LG/O	✓		3a
65	LG/G	✓		3a
66	O/LB	✓		4a

NO.	TAGS	T NOS.	PAGE
67	O/B	✓	2a
68	G/O	✓	2a
69	O/Bl	✓	2a
70	Bl-C/Bl	✓	2a
71	G/Bl	✓	2a
72	W/Bl	✓	2a
73	LG/Bl	✓	3a
74	R/Br	✓	1a
75	Br/LB	✓	2a
76	LB/P C/Y	✓ —	4a
77	C/W,	✓ —	1a
78	—	✓ —	4a.
79	[illegible], LG/Br W-R	T95 ~~T85~~	~~6a~~ 3a.
80	V/B,	T85	6a
81	Y/R, Y-Y/R	T88	
82	LG/S, P/O	T98	3a.
83	—	—	3a.
84	—	—	6a.
85	S/B, W/B, G-G,	T00	3a
86	P/LG	T87	4a.
87	O-O	T97	3a.
88	Y/LB, G-Y/B, B-B	T96	4a.
89			
90			
91			
92			
93			
94			
95			
96			
97			
98			
99			

NO. 100	TAGS.	T NOS.	PAGE
623 0861	NA	✓	1a 5a.

PHOTOGRAPHS *

DEVELOPEMENT OF SHIELD and GENERAL

* note - many photographs do not have page references nor adaquate legends, on thereter to the date in notes.

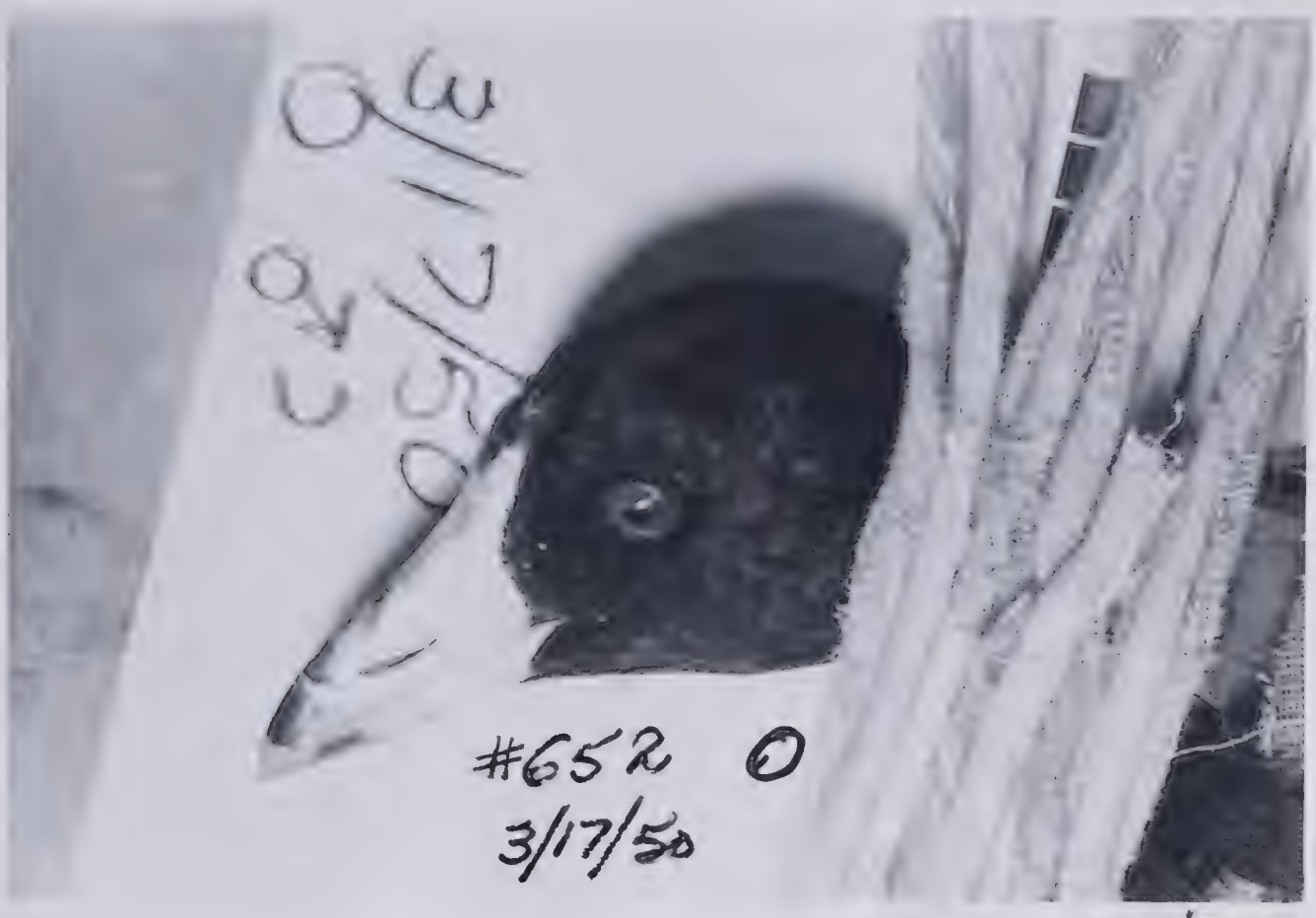
DEVELOPEMENT
OF SHIELD

W. GULLION
1950

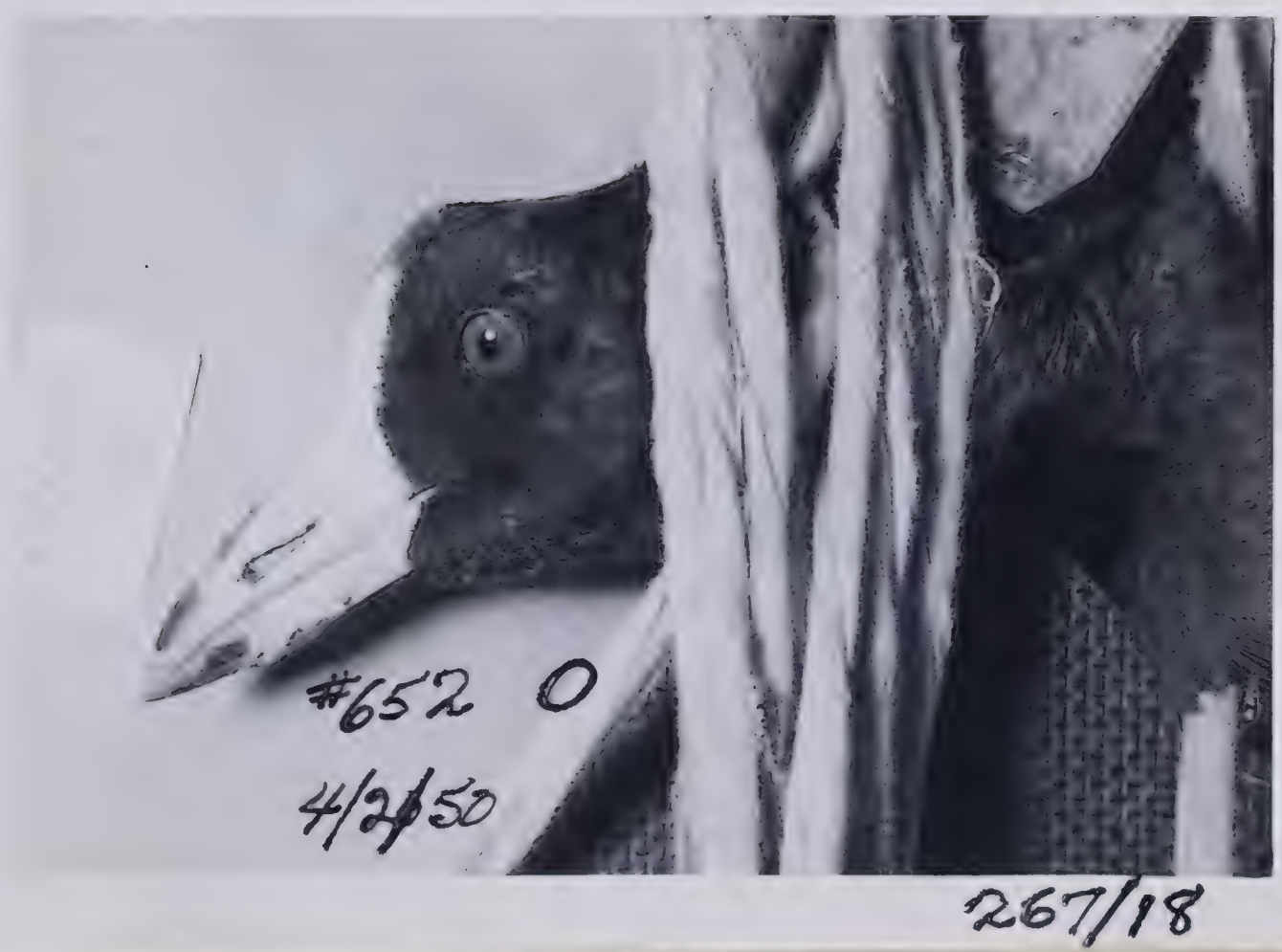
Fulica americana

288

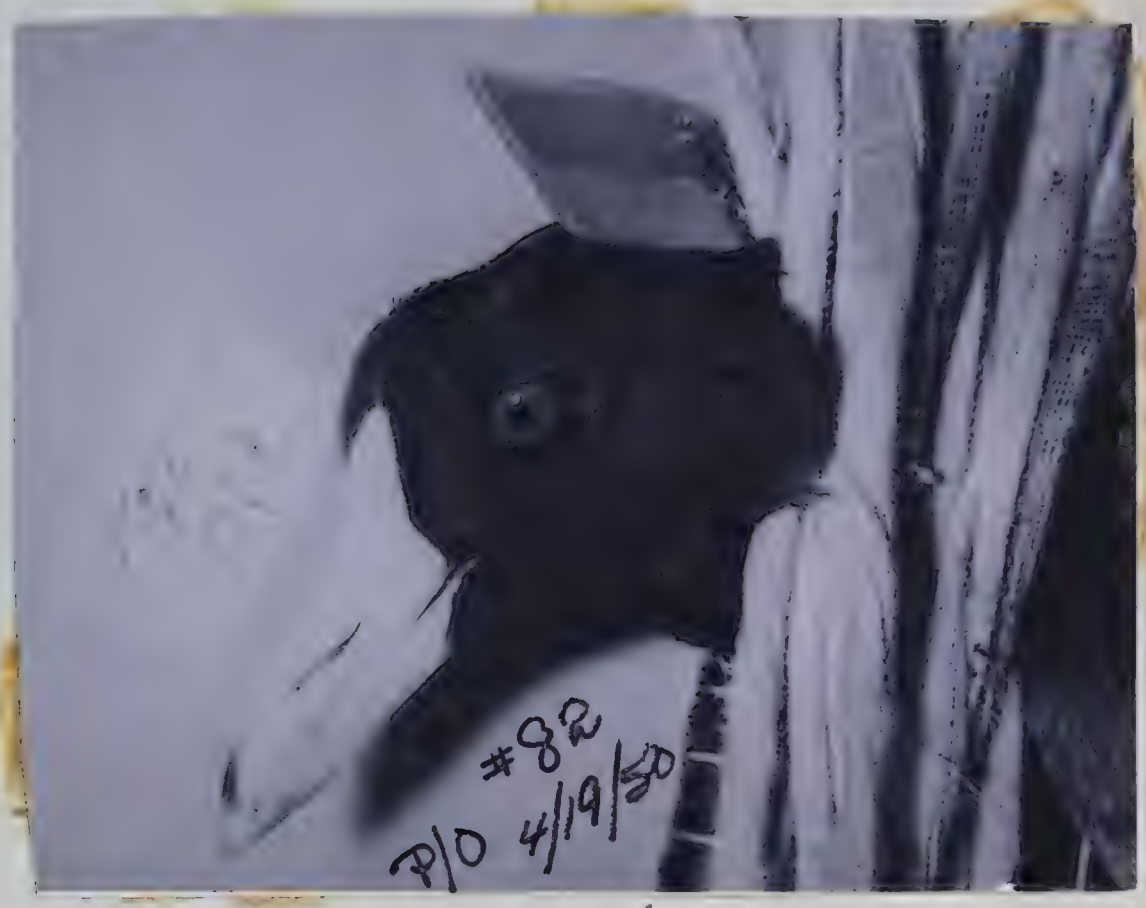
Bird 652 – O
O – on March 17, the day the testosterone pellet was placed under the skin.



same bird on April 2, 16 days later, with the swollen shield.



Bird 82 - P/O



306/18

309/20

309/20

346

308/10

310/7

Bird 659 - T94

306/18

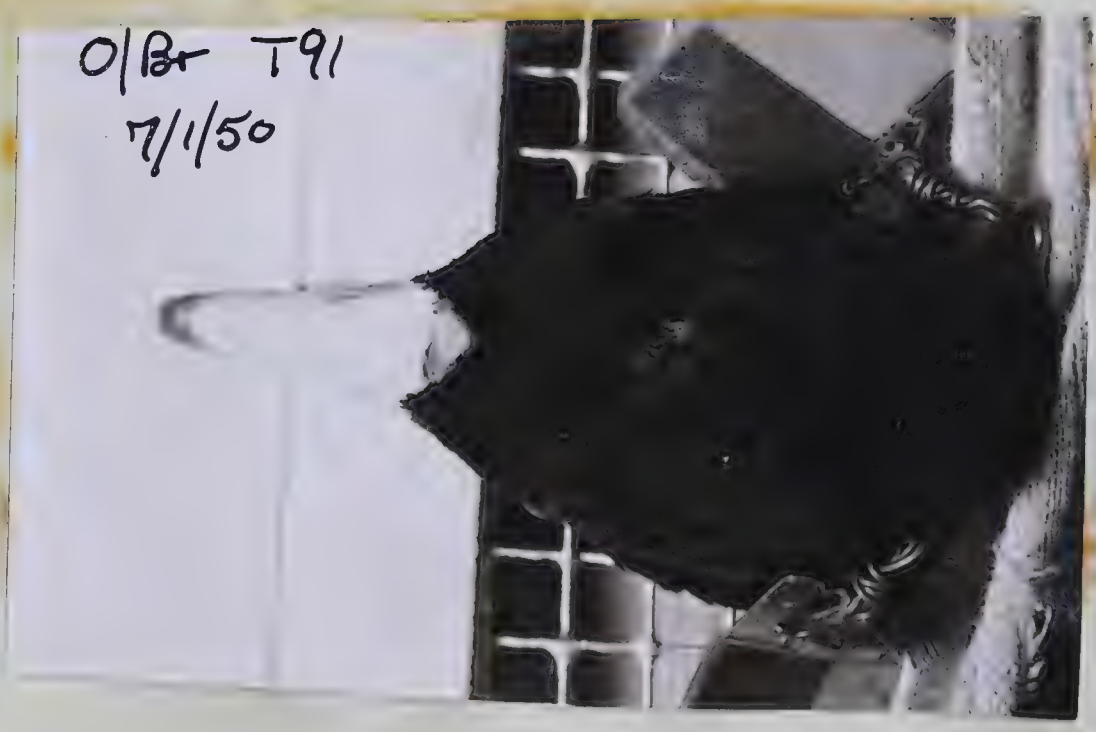
311/8

#660 Bird T91 - O/Br.

#660

~~307/0~~ 267/21

310/5



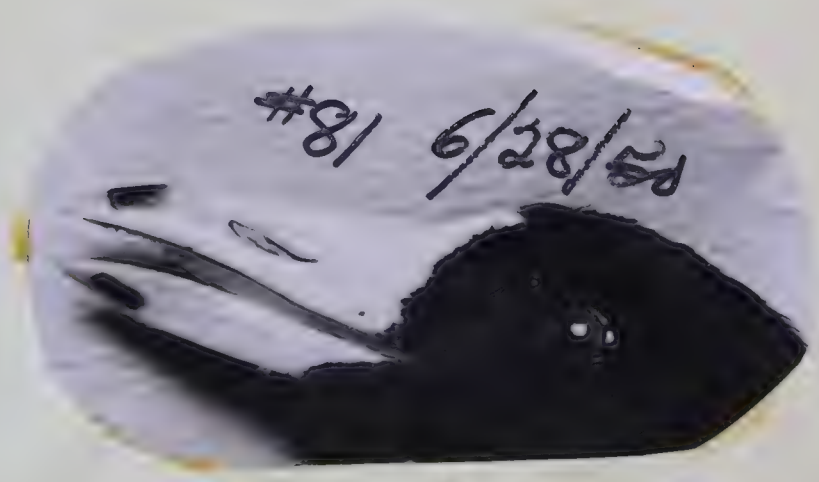
310/4

Bird 81 - Y X/R

267/20

297/13

298/19

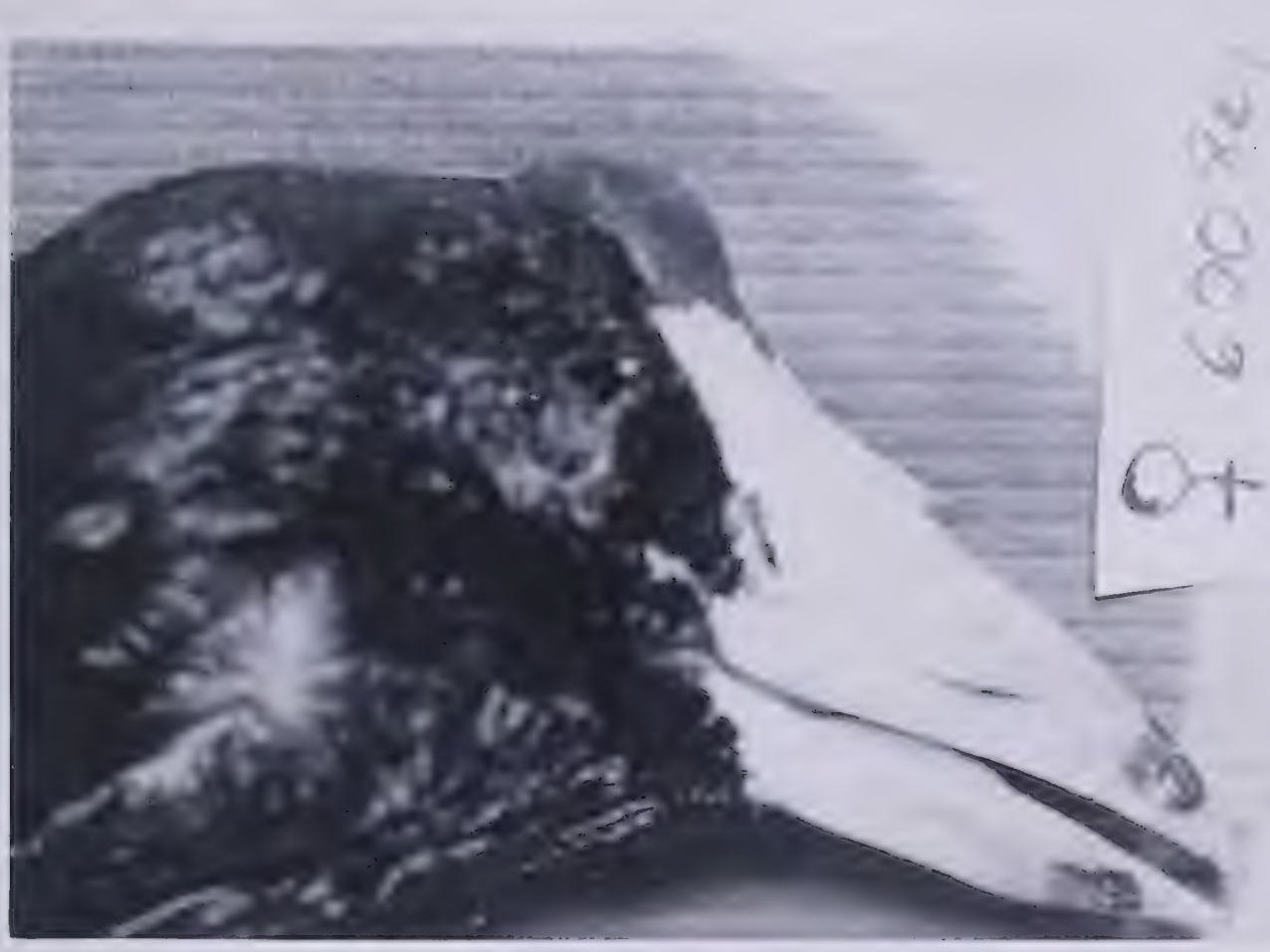


309/19

W. GULLION
1950

Fulica americana

350



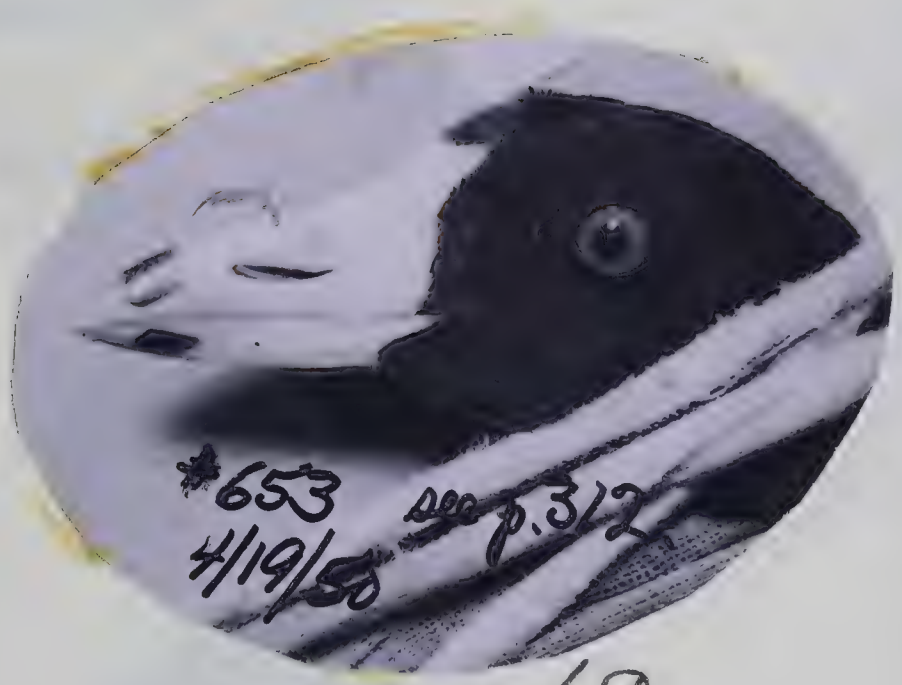
Bird 40-600861 - died at Lake Merritt about March 20, 1950. Banded at Lake Merritt on November 16, 1939.

for data see pages - 269, 275, 274,

453

♀ Bird 653 – 9/Bl.

292/1



306/19

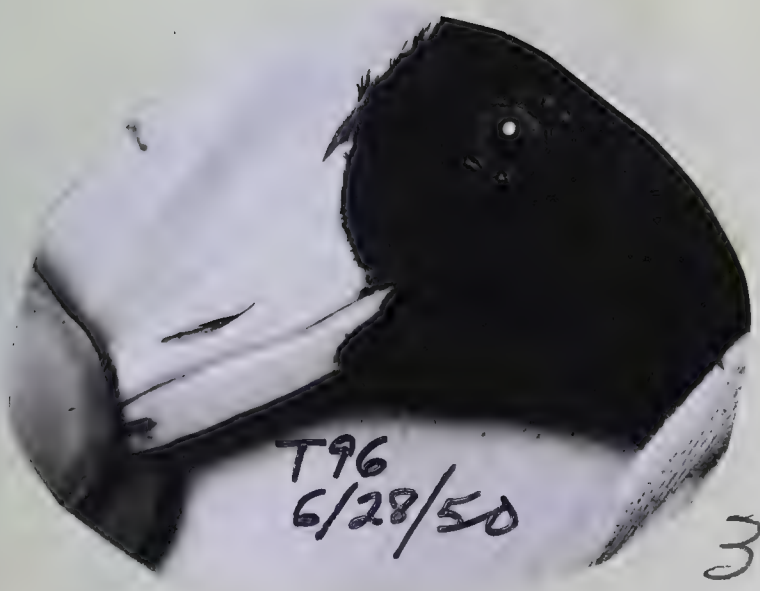
Bird T96 - Y/LB - G-Y/B. #88

292/4

267/19

305/15

297/15



309/16

Y/LB or G-Y/B or.

Bird 79 - T95. W-R
LG/Bs.

291/14

298/18

298/21

298/22

308/7

309/14

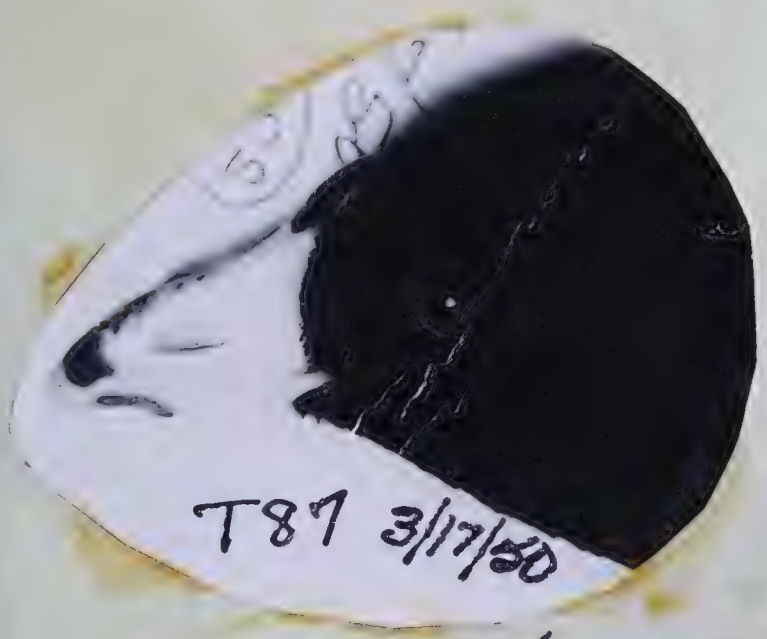
or W-R

Bird 80 - VG

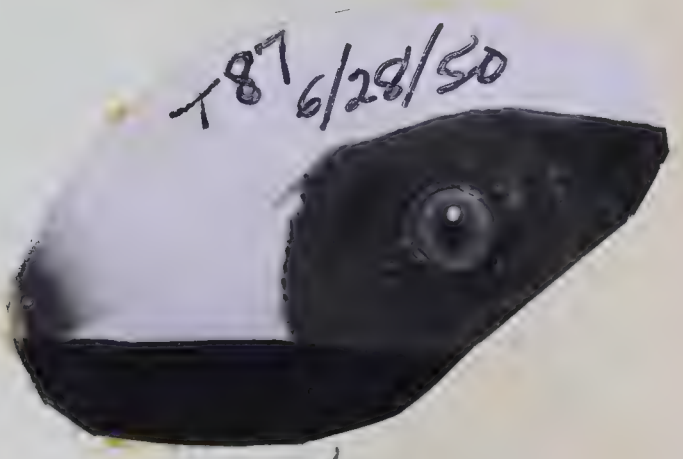
297/12

308/9

Bird T87 - #86
~~G~~ P/LG



~~320/11~~
29/13



309/15

Bird 654 - G/C

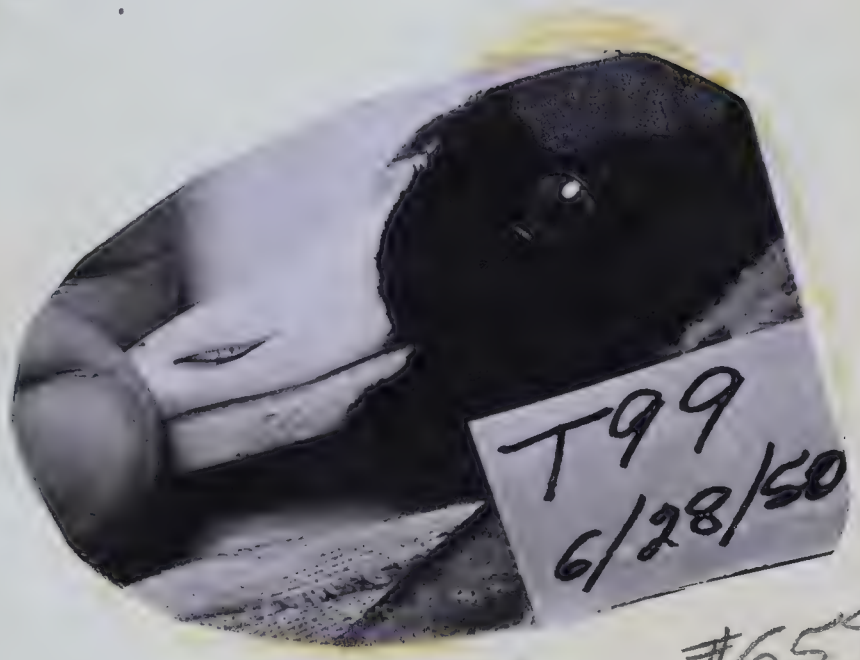
290/8

303/2

295/0

Birds 77, T99, T97, T00

291/16



309/17 #658

ould be as
ontrasty as this one

#87

310/6

#85

311/9

GENEIKAL PHOTOGRAPHS

W. GULLION
1950

Jewel Lake from the SE corner.

571

Jewel Lake from ridge on west side looking due north 1949

North end of Jewel Lake from east end of dam - looking at NW cove and head of Nava - 1949 (,1949)

JEWEL LAKE
Tilden Regional Park
SCALE
ELEVATION 810 ft
LEGEND
Bottom Contours
Prepared by
GORDON W GILKIN
311/11

LAKE TEMESCAL
Lake Temescal Regional Park
Alameda County, California
SCALE
0 50 100 feet
ELEVATION 420 ft
Spillway
Sandy Beach
Dam
13 10 7 5 5 25
Swimming
Area
Log Boom
Flycasting Floats
depth not determined
East Inlet
LEGEND
Native Trees and Bushes
Weeping Willow Trees
Narrow-leaved Cat-tails
Broad-leaved Cat-tails
Pampas Grass
Water Iris
Bottom Contours
Wooden Platforms and Piers
N
13
10
7 5
Island
5
2 5
South Bay
South Inlet
Picnic Area
Prepared by
GORDON W GILKIN
November 1947
311/12

W. GULLION
1950

Fulica americana

456

Paired Display - SE pair, Lake Temescal,
April 26, 1950

A swanning bird, SE pair, Lake Temescal,
April 26, 1950

see p. 340

308-13

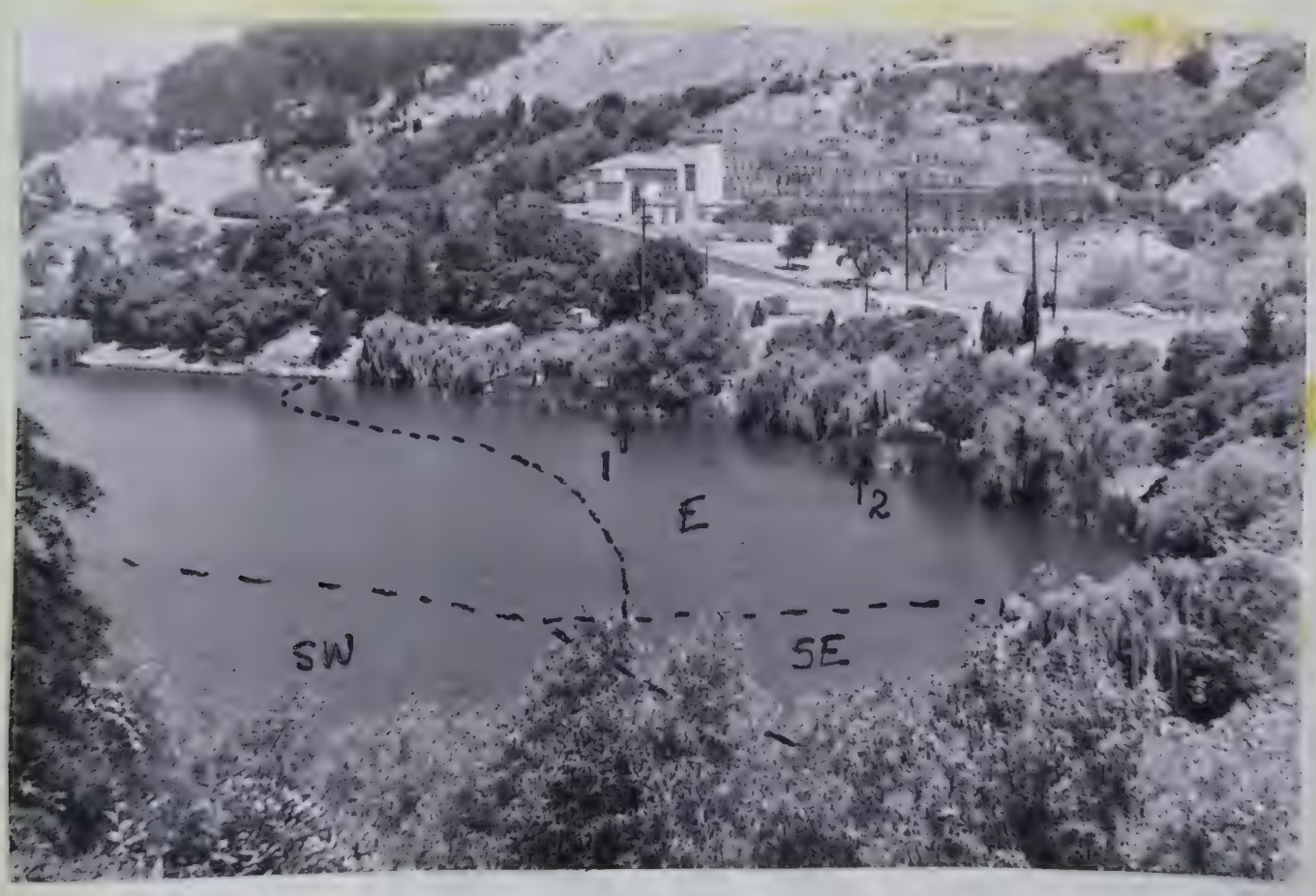
Nest I 6.1 - Lake Temescal - w/9 eggs
April 26, 1950 see p. 340

Nest I 6.1 - Lake Temescal - showing nest
April 26, 1950 see p. 340

Sullivan
1950

Fulica americana

The SW area at Lake Temescal, July , 1950. Dashes mark approximate boundaries.



E area Lake Temescal. Arrows mark ① 1st nest (Q 22) ② 2nd nest (P 16.2). Dashes indicate approximate boundaries: SW, SE & E areas. This looks about due north. July , 1950

South end of Lake Temescal. -
April 1, 1950

Broad-leaved flowering

Narrow-leaved flowering

Comparing development of broad- & narrow-leaved cat-tails at Jewel Lake. July , 1950

G. W. GULLION
1950

Fulica Americana

519

Nest P25.7 - Jewel Lake, showing how well concealed the Coot nests are in the cat-tails. March 25, 1950 (see page 245)

Vicinity of nest #25.19 Jewel Lake, 1950 shows density of cat-tail growth hiding nest.

308/12

308/11

♂ ♀

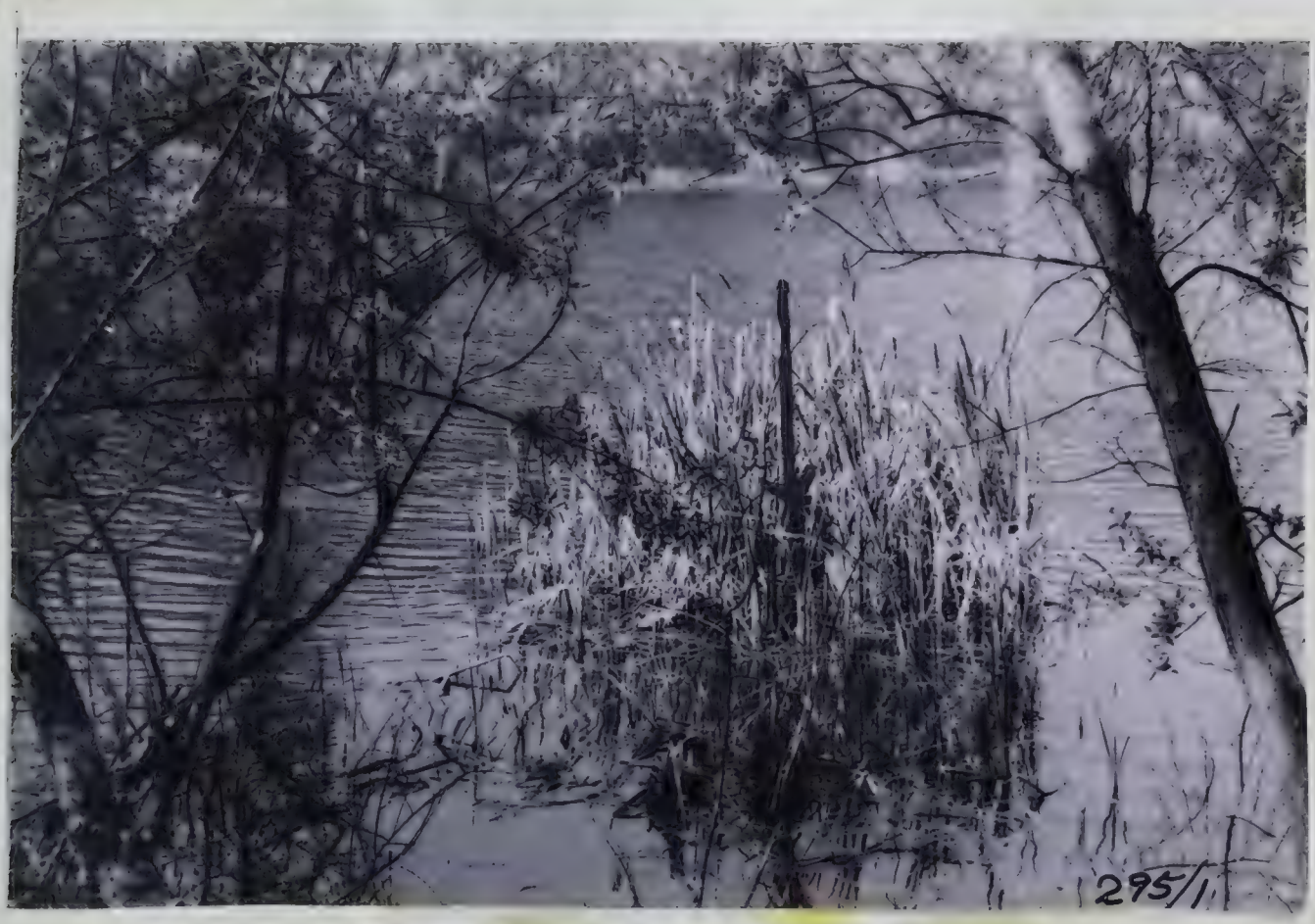
The E pair at Lake Temescal 1949, note shield shapes and swollen condition. Lake was at a low stage and their territory displaced to the north.

♂ ♀

E pair Lake Temescal, Nov. 24, 1949 note differences in shield shapes.

see p. 145

Same nest clump Q 22 - looking S
from the Q 23 area (see p. 525.)
arrow points towards nest



Nest clump at Q 22 - Lake Temescal
looking west from observation place
arrow indicates location of nest.

P/6/7 - June 3, 1950

Cat-tail clump at P-Q 23, Lake Temescal-
arrow indicates location of nest Q 23.11.
April 1, 1950

The E area, extends from dotted line in fore-ground to dotted line in back ground.

Platform at T16.2 - showing approach location Lake Texcoco, April 1, 1950. nest indicated by arrow.

307/1

W. GULLION
1950

Fulica americana

524

Vicinity of nest J6.5 at Lake Tamascal, April 1, 1950 - arrow points to nest.

Same area from a different side.

arrow points to nest.